

# Multi-County Goods Movement Action Plan

## Los Angeles County Action Plan



**Metro**



Prepared for:

**Los Angeles County Metropolitan Transportation Authority  
California Department of Transportation  
Orange County Transportation Authority  
Riverside County Transportation Commission  
San Bernardino Associated Governments  
Southern California Association of Governments  
Ventura County Transportation Commission  
San Diego Association of Governments**

Prepared by:

**Wilbur Smith Associates**

In association with:

**The RNO Group**

**Gill V. Hicks & Associates, Inc.**

**George R. Fetty & Associates**

**Economics & Politics, Inc.**

**Arellano Associates**

**Jones & Stokes**

**Urban Solutions, LLC**

**Sharon Greene & Associates**



**Wilbur Smith Associates**

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## Introduction







### Purpose

This document outlines a Goods Movement Action Plan for Los Angeles County, California, as part of a broader Multi-County Goods Movement Action Plan (MCGMAP) developed collectively by the participating agencies (or “project partners”) representing Los Angeles County Metropolitan Transportation Authority (Metro), Orange County Transportation Authority (OCTA), Riverside County Transportation Commission (RCTC), San Bernardino Associated Governments (SANBAG), San Diego Association of Governments (SANDAG), Ventura County Transportation Commission (VCTC), Southern California Association of Governments (SCAG), and the California Department of Transportation (Caltrans). The MCGMAP contains strategies to support the efficient movement of goods without disproportionately impacting local communities, the environment, or the transportation network. The MCGMAP is also a regional framework for goods movement initiatives that provides direction and recommendations at a macro level for a multi-county study area. In some instances this macro level approach merits more in-depth analysis.

The Goods Movement Action Plan for Los Angeles County (herein referred to as “the LA GMAP”) outlines key goods movement issues and challenges that impact Los Angeles County and its communities. It also references goods movement plans, proposals and initiatives that are underway. It is important to note that the LA GMAP and MCGMAP builds on a large body of work that has been researched and developed over the past few years, all of which collectively address a comprehensive range of goods movement issues. A map of the Los Angeles County’s goods movement system is shown in Figure 1.

Other efforts, such as the Goods Movement Strategic Plan for Los Angeles County, will likely address new and existing issues as they arise (refer to Next Steps section of this document). The LA GMAP begins to address the most significant goods movement issues currently faced by the county. While the LA GMAP is not intended to be a full and complete glossary of every issue and impact on each subregion within the county, it focuses on recommended projects and strategies that can help better manage the movement of goods and their associated impacts. The LA GMAP concludes with specific Los Angeles County actions, mitigation measures, projects and strategies and identified needs that support the four action sets contained in the MCGMAP. Lastly, this chapter identifies the next steps needed to address the county’s challenges.



-  Airports
-  Ports
-  Railroad
-  Freeways
-  Urban Areas
-  Highway

# Multi-County Goods Movement Action Plan Los Angeles County

0      10      20      40 Miles



Sources:  
StreetMap 2006

**Figure 1**

## Context and Framework for the Los Angeles County Plan

In recent years, goods movement has emerged as a major challenge facing Southern California in part due to future projections that predict dramatic growth in freight/goods movement throughout the multi-county study region and the relationship between goods movement and the region's economy, mobility, and environment. In fact, goods movement is now recognized as not only a Southern California issue, but a state and national issue as well. These challenges, which are described in both the MCGMAP and subsequent sections of this county plan, have been publicized in recent goods movement studies and efforts and articulated to the MCGMAP project partners by goods movement stakeholders in the region.

If nothing is done to address these challenges, the projected growth in international and domestic goods movement will exacerbate the existing mobility, environmental, and funding constraints in the study area. Absent any improvements, increased trade volume will result in more trucks and trains handling goods, increases in the potential for accidents, incidents and vehicular and train conflicts at grade crossings, more bottlenecks, chokepoints and traffic delays on a highway and rail system that is already at or near capacity, and increased environmental impacts.

Differing perspectives exist on how to effectively address these challenges. Because the ability to transport goods efficiently and the capacity and quality of trade infrastructure are key determinants of international competitiveness, some stakeholders advocate for increased infrastructure capacity at the ports and along rail lines and roadways. This in turn would enable Southern California to retain and possibly expand the economic benefits of trade it now receives. On the other hand, some stakeholders, particularly environmental and community groups support policies or legislation that limits port growth. Furthermore, these stakeholders demand that quality of life is enhanced and sustainable communities are preserved by taking a more aggressive role in protecting public health and the environment through emissions reduction measures and community impact mitigation. These stakeholders also advocate for strategies that reduce reliance on trucks (and diesel fuel) to move goods to goods movement facilities (e.g., rail yards, warehouses, and distribution centers), reduce the local impacts of goods movement (e.g. land use conflicts, noise, and visual impacts), and explore the use of advanced, low or no emission technologies to transport goods.

Implementing any new projects and strategies will require adequate funding, though traditional funding sources are strained. This situation has been worsened by the fact that Southern California receives a disproportionately low share of federal and state funding, though many stakeholders recognize the need for the federal government to pay their fair share of costs associated with this industry. To address the funding issue, some stakeholders believe that private sector funding (e.g., tolls, fees, etc.) should be tied to specific projects so that the benefits of the project will be realized by those who pay for it. On the other hand, some advocate for a legislated fee approach, wherein the revenues generated by such fees are used to fund infrastructure improvements as well as mitigation projects to mitigate the adverse community and environmental impacts of trade.

The MCGMAP project partners recognize that while the goods movement industry remains a major economic driver in Los Angeles County, the study region, and the state there are also significant public health risks and other environmental and community impacts associated with goods movement. It is within this framework of challenges and divergent perspectives that the MCGMAP and the LA GMAP have been developed. The following sections outline the recent and ongoing efforts to address goods movement and describe the subregions, county specific challenges and issues, county actions, projects and the next steps needed for subsequent planning efforts.

## Recent and Ongoing County Efforts

The MCGMAP and LA GMAP incorporate and build on previous projects and efforts, which are summarized in the following sections. These include plans and studies, projects and strategies, and institutional efforts.

### Plans and Studies

In recent years, a number of studies have been completed that examine specific components or areas of the county's goods movement system. These include but are not limited to the following:

- ◆ Improving Truck Movement in Urban Industrial Districts, October 1999
- ◆ Alameda Corridor East Trade Corridor Plan, June 2001
- ◆ Port of Long Beach/Los Angeles Transportation Study, June 2001
- ◆ Alternative Access and Locations for Air Cargo, June 2002
- ◆ Empty Ocean Container Logistics Study, May 2002
- ◆ Port of Long Beach Rail Master Planning Study, September 2002
- ◆ LA-Inland Empire Railroad Mainline Advanced Planning Study, October 2002
- ◆ Port of Los Angeles Baseline Transportation Study, April 2004
- ◆ North County Combined Highway Corridors Study Final Report, April 2004
- ◆ A Study of Drayage at the Ports of Los Angeles and Long Beach, December 2004
- ◆ I-710 Major Corridor Study, March 2005
- ◆ Port and Modal Elasticity Study, September 2005
- ◆ SR-91/I-605 Needs Assessment Study, September 2005
- ◆ San Pedro Bay Ports Rail Study Update, December 2006
- ◆ South Bay Goods Movement Study, June 2007

In addition to these studies, statewide and regional plans have been developed that address goods movement mobility and/or environmental challenges. In January 2007, the California Environmental Protection Agency (Cal/EPA) and the Business, Transportation, and Housing Agency (BTH) released the final State Goods Movement Action Plan, which is the statewide action plan for goods movement. The state plan incorporated key elements of the California Air Resources Board (CARB) Emission Reduction Plan for Ports and Goods Movement in California, which was adopted in April 2006. Also, the California Marine and Intermodal Transportation System Advisory Council (CALMITSAC) documented the state's maritime goods movement needs in its California Marine Transportation System Infrastructure Needs report. At the regional level, the South Coast Air Quality Management District (SCAQMD) adopted the 2007 Air Quality

Management Plan (AQMP) in June 2007. The AQMP contains strategies intended to reduce emissions from goods movement activities. Finally, the Ports of Long Beach and Los Angeles adopted the San Pedro Bay Ports Clean Air Action Plan (CAAP) in November 2006. The CAAP is designed to reduce air emissions from port-related sources such as trucks, locomotives, and ocean-going vessels.

Furthermore, there are a number of plans, studies, and proposals that are currently in progress. For example, the Southern California Association of Governments (SCAG) is developing the "Environmental Mitigation Plan for Goods Movement in Southern California" that analyzes environmental and community impact mitigation strategies and will recommend a strategy for mitigating goods movement related impacts. SCAG will also conduct a multi-million dollar "Comprehensive Regional Goods Movement Plan and Implementation Strategy" that will refine the goods movement element of the SCAG 2008 Regional Transportation Plan, conduct a needs assessment of warehouse and intermodal facilities, and explore the use of new technology alternatives to move goods. Building on the recommendations from the MCGMAP, Los Angeles County in partnership with Caltrans and the counties of Orange, Riverside, San Bernardino, and Ventura have begun the Environmental Justice Analysis and Outreach for the MCGMAP. This effort will result in a guidebook for local jurisdictions that includes a list of strategies for reducing the impact of goods movement on communities. Building upon the work begun on the I-710 Major Corridor Study, Metro, in conjunction with Caltrans, Gateway Cities Council of Governments, Ports of Long Angeles and Long Beach, SCAG, and the I-5 Joint Powers Authority are developing the Environmental Impact Report/Environmental Impact Statement for the I-710. Also of note, the Ports of Los Angeles and Long Beach are currently conducting the "Advanced Cargo Transportation Technology Evaluation and Comparison" study, which will examine potential options for connecting the ports with near-dock rail intermodal facilities using advanced, clean technologies.

### **Projects and Strategies**

A number of goods movement projects have been implemented in the county in recent years. Perhaps the most notable of these is the Alameda Corridor, which opened in 2002 and is a grade separated rail line linking the Ports of Los Angeles and Long Beach to downtown Los Angeles. In addition, road/rail grade separations and grade crossing improvements along the Alameda Corridor East Trade Corridor and other roadway improvements have been made or will be implemented to help relieve congestion, increase mobility, and mitigate the impacts of goods movement.

Improving the operational efficiency of existing infrastructure is also a crucial priority. To this end, the Ports and marine terminal operators in conjunction with elected officials and the Gateway Cities Council of Governments instituted the OffPeak program (also known as PierPass) in July 2005. The purpose of OffPeak is to shift port traffic away from daytime hours to off peak (night and weekend) hours. It does so by charging a Traffic Mitigation Fee of \$50 per twenty foot equivalent unit (TEU) container to those containers moved during peak hours (Monday through Friday, 3:00 am-6:00 pm) and not charging a fee to move containers during off peak hours (currently defined as Monday through Thursday, 6:00 PM to 3:00 AM and Saturday from 8:00 AM to 6:00 PM). The program has been very successful and about 37 percent of port truck trips are now made during off

peak hours<sup>1</sup>.

### **Institutional Efforts**

In addition to these efforts, Metro has worked in partnership with public and private sector stakeholders on developing appropriate policies, improvements and financing strategies that address the anticipated increase in goods movement activities throughout the county without disproportionately impacting local communities and the environment. For example, Metro has programmed funds for freight/goods movement projects through its Call for Project process for Alameda Corridor, Alameda Corridor East and a number of grade separations and truck access improvement projects for local roadways, bridges, interchanges and intersections. Further, Metro has expanded its leadership role in coalition building through its work with the Mobility 21 Coalition and served a lead role in the development of the MCGMAP with specific directions from its Board of Directors to take a more proactive role in the goods movement arena. On January 29, 2007 the Metro Board of Directors held its first workshop on goods movement. During the workshop a broad cross section of stakeholders representing councils of governments, environmental and air quality regulatory agencies, the ports, developers, trucking, freight and logistics industries, Alameda Corridor East Construction Authority, Alameda Corridor Transportation Authority, the Los Angeles Economic Corporation Development as well as representatives from Business, Transportation and Housing, and the California Transportation Commission provided testimony about the impacts of goods movement throughout Los Angeles County and recommendations to address these impacts.

At its February, 2007 meeting, the Board adopted a goods movement policy that supports goods movement initiatives through advancing specific projects/programs, advocacy, collaborative efforts and, pursuing various funding/financing strategies through federal, state and private sector partnerships to address goods movement impacts. Metro's Board also directed staff to conduct a Goods Movement Strategic Plan for Los Angeles County, upon completion of the MCGMAP.

In April, 2007, the Board directed staff to continue to advocate for Los Angeles County projects that were included in the State's Goods Movement Action Plan, and to specifically advocate for increased levels of funding from the State Trade Corridors Improvement Fund (TCIF) program, and incorporate the evaluation of the feasibility of a Los Angeles County inland port into the Goods Movement Strategic Plan for Los Angeles County.

In October 2007, Metro along with other local, regional, state, and federal agencies signed the Southern California National Freight Gateway (SCNFG) Cooperation Agreement. This agreement and other related activities will be instrumental in developing a set of feasible actions to accelerate air quality and emission reduction plans discussed in the MCGMAP. Southern California transportation and governmental agencies have also been active participants in the meetings convened by the California Transportation Commission to develop criteria for allocating funds under the Trade Corridors Improvement Fund. On April 10, 2008, the California Transportation Commission approved \$1.65 billion in state Trade Corridor Improvement Funds for improving the flow of goods from the San Pedro Bay ports throughout the Southern California region.

Metro will continue to work with Los Angeles County jurisdictions, the County of Los Angeles, Councils of Governments, county transportation commissions of Orange, Riverside, San Bernardino & Ventura, Caltrans, Southern California Association of Governments, San Diego Association of Governments, environmental groups, the ports (sea and air), the railroads, regulatory agencies and other affected stakeholders to ensure that the MCGMAP and LA GMAP remain living documents that provides guidance for decision makers responsible for planning and programming funds for goods movement throughout the region. The MCGMAP and LA GMAP are intended to complement local, state, and regional plans that promote livable and sustainable communities and reflect the priorities of the region.

## Subregional Profiles

Los Angeles County is composed of 89 jurisdictions<sup>2</sup> as well as county unincorporated areas. The cities and communities are divided geographically into the following nine subregions (Figure 2):

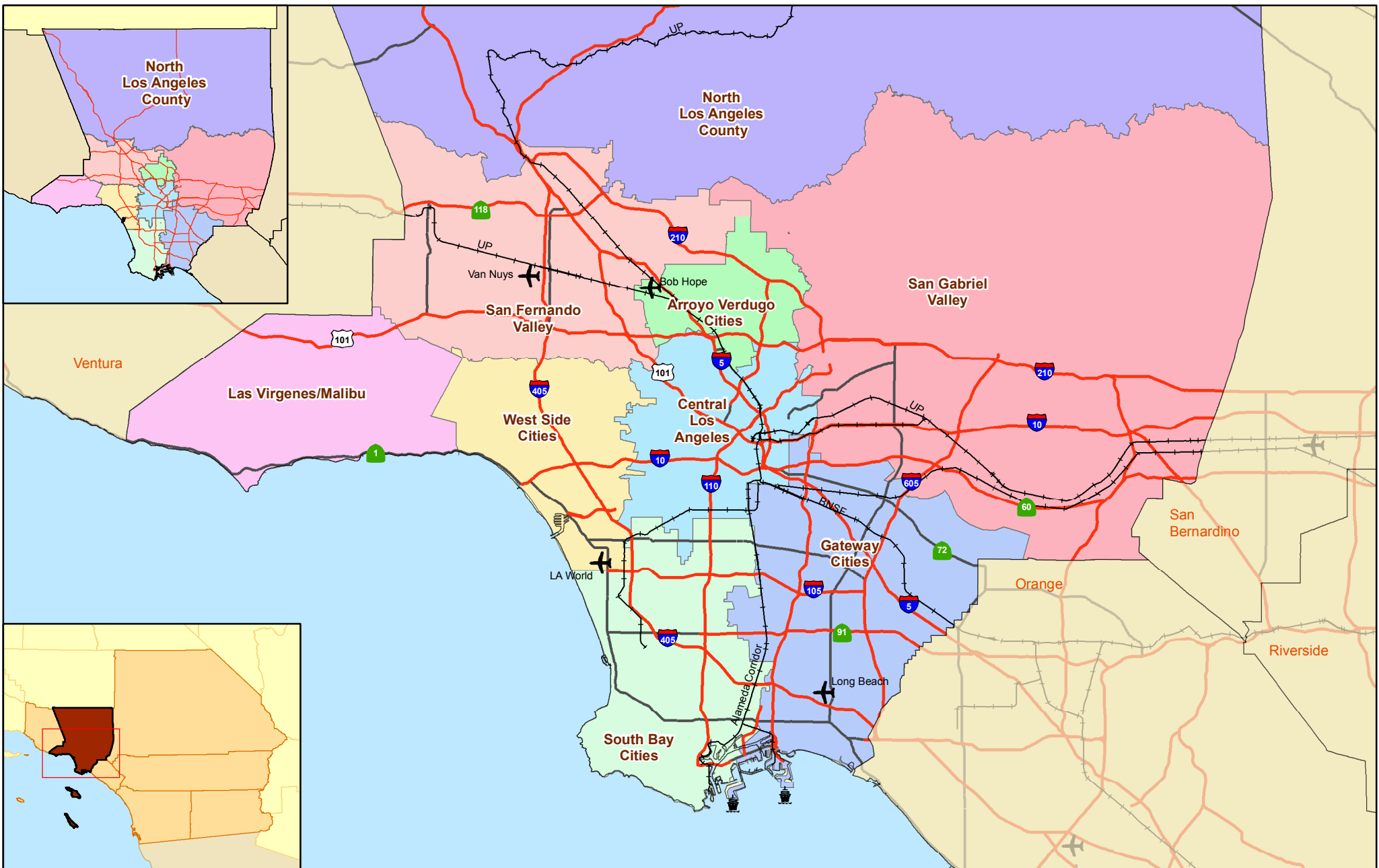
- ◆ Arroyo Verdugo
- ◆ Central Los Angeles County
- ◆ Gateway Cities
- ◆ Las Virgenes/Malibu
- ◆ North Los Angeles County
- ◆ San Fernando Valley
- ◆ San Gabriel Valley
- ◆ South Bay Cities
- ◆ West Side Cities

Each subregion provides important input into Metro's planning efforts and processes. As indicated in Tables 1 and 2, each of the subregions is expected to experience significant population and employment growth. Brief descriptions of each subregion are provided on the following pages.

**Table 1**  
**Subregional Population Growth, 2003-2030**

Subregion	Population		
	2003	2030	% Change
Arroyo Verdugo Cities	339,006	394,918	16%
Gateway Cities	1,887,355	2,220,215	18%
Las Virgenes Cities	87,736	125,764	43%
North Los Angeles County Cities	593,665	1,191,665	101%
Central Los Angeles Cities	1,697,898	2,007,206	18%
San Fernando Valley Cities	1,406,147	1,582,476	13%
San Gabriel Valley Cities	1,803,814	2,331,228	29%
South Bay Cities	1,434,224	1,674,917	17%
West Side Cities	585,906	664,641	13%

Source: Metro



- Airports
- Ports
- Railroad
- Freeways
- Highway

# Multi-County Goods Movement Action Plan

## LA County Subregions



Sources:  
StreetMap 2006  
Metro

**Figure 2**

**Table 2**  
**Subregional Employment Growth, 2003-2030**

Subregion	Employment		
	2003	2030	% Change
Arroyo Verdugo Cities	208,217	269,157	29%
Gateway Cities	786,668	960,037	22%
Las Virgenes Cities	46,402	58,503	26%
North Los Angeles County Cities	193,437	292,691	51%
Central Los Angeles Cities	896,025	1,061,631	18%
San Fernando Valley Cities	583,395	723,501	24%
San Gabriel Valley Cities	749,778	922,804	23%
South Bay Cities	633,862	788,678	24%
West Side Cities	465,729	574,039	23%

Source: Metro

## ARROYO VERDUGO SUBREGION

### Setting

Arroyo Verdugo sits against a backdrop of the San Gabriel Mountains between the San Fernando and San Gabriel Valleys. It is located on the northern edge of the Los Angeles Basin, and is bounded to the north by the Angeles National Forest, to the west and south by the City of Los Angeles, and on the east by the City of Pasadena. The Arroyo Verdugo subregion comprises a land area of 60 square miles.

### Arroyo Verdugo Cities

Burbank, Glendale, and La Cañada Flintridge

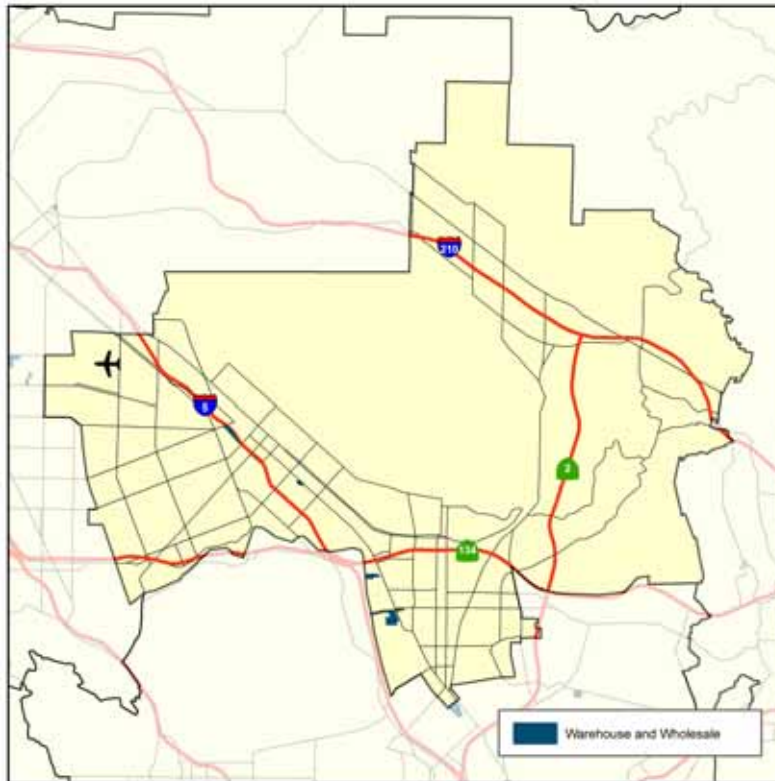
### Major Transportation Facilities

Several major freeways traverse this subregion including the Foothill (I-210), Glendale (SR-2), Golden State (I-5) and Ventura (US-101 and SR-134) freeways. The northern portion of the Hollywood Freeway (SR-170) extends northwesterly to the south and west of the subregion. Metrolink's Ventura County and Antelope Valley Lines provide commuter rail services to Burbank and Glendale. Limited Amtrak service is also available.

### Warehousing

Figure 3 shows the location of warehousing in the Arroyo Verdugo Subregion. This activity is not prevalent within the subregion. Major truck traffic occurs on I-5 and warehousing is concentrated in close proximity to that freeway.

Figure 3  
Arroyo Verdugo Subregion Warehouse Land Use



Source: StreetMap 2006,  
SCAG 2000 Land Use

## CENTRAL LOS ANGELES SUBREGION

### Setting

The Central Area is generally bounded by the City of Glendale to the north; the cities of Inglewood, Vernon, and Commerce to the south; the cities of West Hollywood, Beverly Hills, and Culver City to the west; and the cities of Pasadena, South Pasadena, Alhambra, Monterey Park, and Montebello to the east.

The Central Area contains a diverse land use pattern that includes the county's heaviest concentration of commercial and government offices; major industrial areas along the Los Angeles River; the most densely populated residential communities in the region; and retail, recreational, and cultural facilities. Downtown Los Angeles is the county's largest employment district and over the past decade the site of a considerable amount of residential, entertainment, and retail development. The Central subregion's road infrastructure is built-out and cannot accommodate more road capacity without serious community impacts. The Central Los Angeles subregion

comprises a land area of 126 square miles.

### **Central Los Angeles Communities**

Atwater Village, Baldwin Hills, Boyle Heights, Central City, Chinatown, Eagle Rock, Echo Park, Glassell Park, Hancock Park, Highland Park, Hollywood, Hollywood Hills, Korea Town, Leimert Park, Little Tokyo, Miracle Mile, Mt. Washington, Silver Lake, University Park, West Adams, Wilshire Center, portions of South Los Angeles, and the unincorporated county area of East Los Angeles.

### **Major Transportation Facilities**

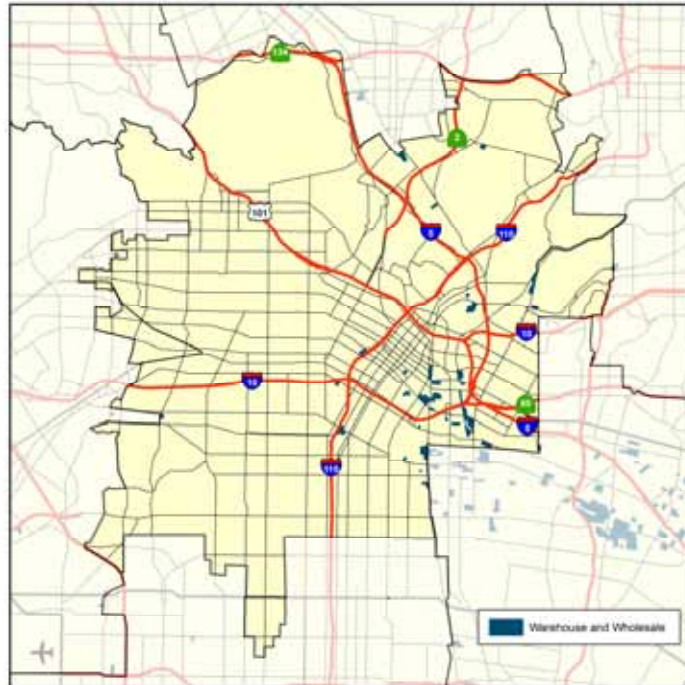
A total of eight freeways pass through the Central Area. They include SR-2 (Glendale Freeway), I-5 (Golden State/Santa Ana Freeway), I-10 (Santa Monica/San Bernardino Freeway), SR-60 (Pomona Freeway), SR-134 (Ventura Freeway), and the US-101 (Hollywood Freeway). The El Monte Busway runs along the San Bernardino freeway's median and terminates at Alameda Street. A transitway, which provides elevated HOV lanes and a busway, runs down the center of the Harbor Freeway from USC in Central Los Angeles south of the I-105 (Century Freeway).

Union Station, the Los Angeles Union Passenger Terminal (LAUPT), is the heart of the region's rail system. Amtrak, Metrolink and Metro's Rail system of fixed guideways (rail and transitways) emanate from Union Station. Union Pacific and BNSF freight railroads also traverse this subregion.

### **Warehousing**

Figure 4 shows warehouse activity in the Central Los Angeles County Subregion. The subregion is a core manufacturing area in the county. A concentration is evident in the southwest portion in close proximity to I-5.

Figure 4  
Central Los Angeles County Subregion Warehouse Land Use



Source: StreetMap 2006,  
SCAG 2000 Land Use

## GATEWAY CITIES SUBREGION

### Setting

The Gateway cities are located in southeast Los Angeles County. This subregion is bounded to the south by the Pacific Ocean and Ports of Long Beach and Los Angeles; the Orange County Line on the east; the I-110 (Harbor Transitway) on the west; and SR-60 (Pomona Freeway) on the north.

There are approximately two million people who commute to workplaces throughout the county. The Gateway Cities have a highly diverse population that has formed and retained a unique identity throughout various cities. The Port of Long Beach is located within this subregion and serves as an important industrial center to Southern California. Historically, the region as a whole has been the industrial heartland of Los Angeles County and remains so in a number of the Gateway cities. The Gateway Cities subregion comprises a land area of 226 square miles.

### Gateway Cities

Artesia, Avalon, Bell, Bell Gardens, Bellflower, Cerritos, Commerce, Compton, Cudahy, Downey, Hawaiian Gardens, Huntington Park, La Habra Heights, La Mirada, Lakewood, Long Beach,

Lynwood, Maywood, Montebello, Norwalk, Paramount, Pico Rivera, Santa Fe Springs, Signal Hill, South Gate, Vernon, and Whittier and the County of Los Angeles including the unincorporated areas of East Los Angeles and Whittier.

### **Major Transportation Facilities**

The SR-60 (Pomona Freeway), SR-91 (Artesia Freeway), and I-105 (Glenn Anderson Freeway) serve as major east-west freeway corridors in this subregion. The I-5 (Santa Ana Freeway), I-405 (San Diego Freeway), I-710 (Long Beach Freeway), and I-605 (San Gabriel River Freeway) freeways serve as the major north-south corridors. The municipal airport of the City of Long Beach serves as a hub of corporate activity as well as being one of the busiest general aviation airports in the world. An all-weather port and a transportation infrastructure comprising marine terminals and rail and freeway networks are complemented by the Alameda Corridor, a 20-mile railway designed to speed cargo out of the Ports to all of North America while relieving arterial traffic delay and congestion. BNSF and Union Pacific trains operate within this subregion. In addition, the BNSF Hobart Yard, and Union Pacific's two intermodal rail facilities are located in this subregion. The Metro Blue and Green Lines provide service in this subregion.

### **Warehousing**

Figure 5 shows warehousing in the Gateway Cities Subregion. Concentrations are evident along I-5 near the Orange County border, east of I-710 north of the ports, and at the confluence of I-5 and I-710.

[illegible]

## LAS VIRGENES/MALIBU SUBREGION

The Las Virgenes/Malibu subregion occupies the westernmost portion of Los Angeles County, and is bordered by Malibu and the Pacific Ocean to the south and Ventura County to the west and north. The area's most prominent feature is the strikingly rugged Santa Monica Mountains, which divide this subregion. The Las Virgenes cities occupy the north-facing foothills and valleys adjacent to the Santa Monica Mountains State Park and National Recreation Area. The Las Virgenes/Malibu subregion comprises a land area of 162 square miles.

### Las Virgenes/Malibu Cities

Agoura Hills, Calabasas, Hidden Hills, Malibu, and Westlake Village

### Major Transportation Facilities

The Ventura Freeway (US-101) is the subregion's dominant transportation corridor, around which most commercial/research park development and employment opportunities have clustered. This generally low-density area has a limited network of arterial roadways, of which Pacific Coast Highway (SR-1) is the most heavily traveled. A series of north-south arterials connect the two highways, which include Decker/Westlake (SR-23), Kanan Dume/Kanan, Las Virgenes/Malibu Canyon Road, and Topanga Canyon Boulevard (SR-27).

### Warehousing

As evident in Figure 6 there are no areas of warehousing in the Las Virgenes/Malibu subregion. The only freeway is US-101 and it is not a major truck carrier. The area is also noted for more exclusive residential areas. There is minimal industrial land use and much of the area is vacant due to the Santa Monica National Recreation Area located in this subregion.

**Figure 6**  
**Las Virgenes/Malibu Subregion Warehouse Land Use**



Source: StreetMap 2006,  
SCAG 2000 Land Use

## **NORTH LOS ANGELES COUNTY SUBREGION**

### **Setting**

This subregion comprises all of Los Angeles County north of the San Fernando Valley and includes the Angeles National Forest. The two most populous areas of the subregion are the Santa Clarita and Antelope Valleys. Santa Clarita, in the southern portion of the subregion, is divided between Lancaster and Palmdale in the Antelope Valley to the north, by the Angeles National Forest. The North Los Angeles County subregion comprises a land area of 2,503 square miles.

### **North Los Angeles County Cities**

Lancaster, Palmdale, Santa Clarita, and parts of unincorporated Los Angeles County

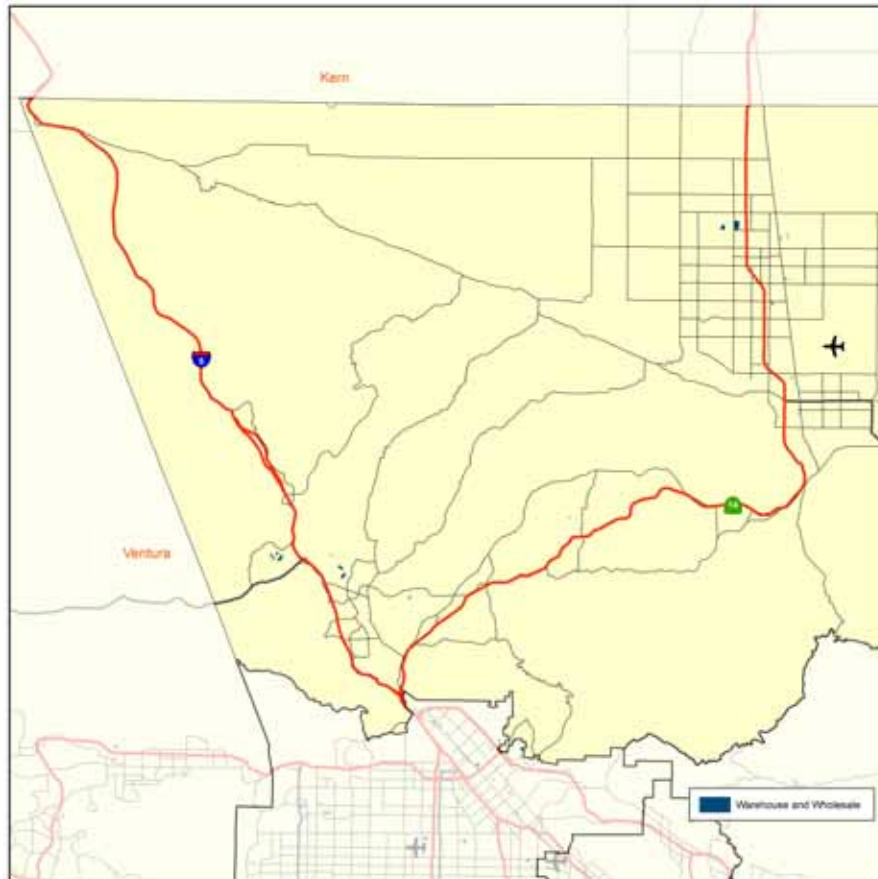
### **Major Transportation Facilities**

Area freeways include the Golden State (I-5) and the Antelope Valley (SR-14). SR-126 and SR-138 also impact the region. Metrolink operates commuter rail services with stations located in the cities of Lancaster, Santa Clarita and in unincorporated LA County. Union Pacific operates limited service within this subregion.

### **Warehousing**

There is currently very limited development of warehousing in the North Los Angeles County Subregion (Figure 7). This area has potential to serve as a warehousing hub primarily due to its large tracts of available land at costs less than the more urbanized portions of the county.

Figure 7  
North Los Angeles County Subregion Warehouse Land Use



Source: StreetMap 2006,  
SCAG 2000 Land Use

## SAN FERNANDO VALLEY SUBREGION

### Setting

The Valley extends north of the Hollywood Hills and Santa Monica, west to the Las Virgenes/Malibu area, and eastwards near the San Gabriel Valley towards the Arroyo Verdugo subregion. This subregion occupies the north and central portions of Los Angeles County. The San Fernando Valley subregion comprises a land area of 250 square miles.

### San Fernando Valley Cities and Communities

San Fernando Valley portion of the City of Los Angeles and City of San Fernando

**Major Transportation Facilities**

A number of freeways crisscross this subregion including the Golden State (I-5), Ventura (US-101 and SR-134), Simi Valley (SR-118), Hollywood (SR-170), San Diego (I-405), and Foothill (I-210) freeways. There are several carpool lanes running on SR-118, SR-134, SR-170, and I-405.

The Metro Red Line serves the area between downtown Los Angeles, Universal City and North Hollywood. The Metro Orange line is a 14 mile exclusive transitway that is an extension of the Metro Red line. It provides access into the Valley from North Hollywood. More than 20 Metro local bus lines as well as other municipal bus operators provide connections to the Orange line. Metrolink's Antelope Valley and Ventura County Lines and Amtrak provide passenger rail service into this subregion. There is limited freight service within the subregion through Union Pacific operations.

**Warehousing**

The San Fernando Valley Subregion has a limited amount of warehousing (Figure 8). The warehousing evident is found in conjunction with manufacturing areas in the subregion. The industrial land use pattern is also limited. The subregion is primarily residential with commercial development along major arterials.

Figure 8  
San Fernando Valley Subregion Warehouse Land Use



Source: StreetMap 2006,  
SCAG 2000 Land Use

## SAN GABRIEL VALLEY SUBREGION

### Setting

The San Gabriel Valley is located in the easternmost portion of Los Angeles County. This subregion is bounded on the west by the cities of Pasadena, South Pasadena, Alhambra and Monterey Park, on the north by the San Gabriel Mountains, on the east by the Los Angeles County/San Bernardino County Line, and on the south by the City of Montebello and the communities of Hacienda Heights and Rowland Heights.

The area is approximately 97 percent built-out leaving very little undeveloped land for commercial or industrial uses. The subregion encompasses thirty jurisdictions and a portion of an unincorporated county area whose combined population represents 20 percent of the total population of Los Angeles County. The San Gabriel Valley subregion is characterized by socioeconomic and ethnic diversity and is comprised of some of the most affluent and the lowest income communities within Los Angeles County. The San Gabriel Valley subregion comprises a land area of 345 square miles.

### San Gabriel Valley Cities

Alhambra, Arcadia, Azusa, Baldwin Park, Bradbury, Claremont, Covina, Diamond Bar, Duarte, El Monte, Glendora, Industry, Irwindale, La Puente, La Verne, Monrovia, Montebello, Monterey Park, Pasadena, Pomona, Rosemead, San Dimas, San Gabriel, San Marino, Sierra Madre, South El Monte, South Pasadena, Temple City, Walnut, and West Covina

### Major Transportation Facilities

One of the unique transportation features of this subregion is the significant number of freeways that traverse it; namely, San Bernardino (I-10), Foothill (I-210), Pasadena (SR-110), Orange (SR-57), Pomona (SR-60), Chino Valley (SR-71), San Gabriel River (I-605), and the Long Beach (I-710) Freeways.

Another unique transportation feature is 70 miles of two mainline freight lines traveling east-west through the valley paralleling the I-10 and SR-60 freeways carrying goods through the valley to the rest of the nation. A major truck/railroad intermodal facility is located in the City of Industry.

The San Gabriel Valley subregion is served by the San Bernardino and Riverside Metrolink lines whose combined ridership accounts for approximately 42 percent of the system's total weekday ridership. The Metro Gold Line, which opened in July, 2003, serves the subregion with seven stations located in the cities of South Pasadena and Pasadena.

### Warehousing

The most significant concentration of warehousing in the San Gabriel Valley Subregion is along SR-60 (Figure 9). Much of this concentration is in the City of Industry.

The map displays the San Bernardino and Orange regions. Major highways shown include I-210, I-10, I-605, SR-134, SR-60, and SR-91. Warehouse and wholesale locations are marked with blue squares, primarily clustered along the I-605 corridor and near the I-10/I-605 interchange. A legend in the bottom right corner identifies the blue squares as 'Warehouse and Wholesale' locations.

## SOUTH BAY CITIES SUBREGION

The South Bay cities are located at the southern end of the Santa Monica Bay – bounded by the Pacific Ocean on the west and south; the Port of Los Angeles, the City of Carson and the Harbor Freeway (I-110) on the east; the Marina Freeway (SR-90) and the cities of Inglewood and Los Angeles on the north.

The area is almost entirely built-out in terms of residential uses and has somewhat limited growth available for commercial and industrial uses. Land use patterns are such that new businesses have replaced older ones, rather than adding to the “stock” of subregional businesses. Typically, residential development follows a general pattern where the communities in the Beach cities and

on the peninsula are largely high-income areas, and the central and eastern portions of the subregion contain middle-income communities. The South Bay Cities subregion comprises a land area of 183 square miles.

### **South Bay Cities**

Carson, El Segundo, Gardena, Hawthorne, Hermosa Beach, Inglewood, Lawndale, Lomita, City of Los Angeles – San Pedro/Wilmington Harbor Corridor, Manhattan Beach, Palos Verdes Estates, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Torrance, and parts of unincorporated Los Angeles County

### **Major Transportation Facilities**

The Glenn Anderson (or Century, I-105), Harbor (I-110), and the San Diego (I-405) freeways serve the South Bay area. The Gardena Freeway (SR-91) weaves in and out of the easternmost portion of the subregion. A unique feature of the carpool lanes on the I-110 and I-105 freeways is that they flow directly into each other via an elevated direct connector interchange, bypassing the at-grade interchange used by other traffic.

The Metro Green Line runs in the median of the I-105 freeway from Norwalk in the east to the southern edge of Los Angeles International Airport (LAX), and then south to Redondo Beach. A short segment of the Alameda Corridor runs along the subregion's eastern border. Furthermore, BNSF provides limited freight service within this region.

### **Warehousing**

There is a concentration of warehousing in the South Bay Cities Subregion, east of the 710 and north of the 405 (Figure 10). Most of the warehouse land use is near areas of petroleum refining and processing and focuses on related activities.

Figure 10  
South Bay Cities Subregion Warehouse Land Use



Source: StreetMap 2006,  
SCAG 2000 Land Use

## WESTSIDE CITIES SUBREGION

### Setting

The Westside cities subregion is bounded by Mulholland Drive to the north, the Pacific Ocean to the west, the South Bay Cities subregion to the south, and the Central Los Angeles subregion to the east. The subregion is a series of developed and mature communities with a mix of low, medium and dense residential, employment, and activity centers clustered within close proximity of each other. Some of the Westside cities almost triple in population during the day as they attract hundreds of thousands of people to employment, educational, commercial, cultural and recreational destinations from all over the Los Angeles region. Some of the Westside's neighborhoods (such as parts of Santa Monica, West Hollywood, Westwood and Venice) have population densities almost 10 times the county average, and more people will be calling the Westside home in future years.

Access is key in the Westside as people place a higher value on lifestyle preferences (geographical and community) and on amenities within short distances over job location. This clustering gives the feeling that all traffic seems to lead into the area bounded by Santa Monica, West Los Angeles, Westwood, Century City, Beverly Hills, and West Hollywood. The Westside cities' road infrastructure is completely built-out and cannot accommodate any more road capacity without serious community impacts. The Westside Cities subregion comprises a land area of

approximately 103 square miles.

**Westside Cities and Communities**

Beverly Hills, Culver City, Santa Monica, West Hollywood, parts of the city and county of Los Angeles including Pacific Palisades, Brentwood, Century City, Westwood, Westchester, LAX, Baldwin Hills, Ladera Heights, Marina del Rey, and Venice

**Major Transportation Facilities**

The Santa Monica (I-10), the San Diego (I-405), and Marina (SR-90) freeways serve the Westside area. Several major east-west and north-south boulevards parallel I-10 and I-405 providing primary access to and within the Westside area. The Los Angeles International Airport (LAX) is also located within this subregion.

**Warehousing**

As seen in Figure 11, there are only a few locations for warehousing in the Westside Cities Subregion. The two major freeways (I-405 and I-10) do not carry the large volumes of trucks like freeways to the east. There also is not a large amount of manufacturing in the subregion. The area is primarily residential with commercial along the major arterials. The area is primarily noted for some rather exclusive residential areas and high real estate values.

Figure 11  
Westside Cities Subregion Warehouse Land Use



Source: StreetMap 2006,  
SCAG 2000 Land Use

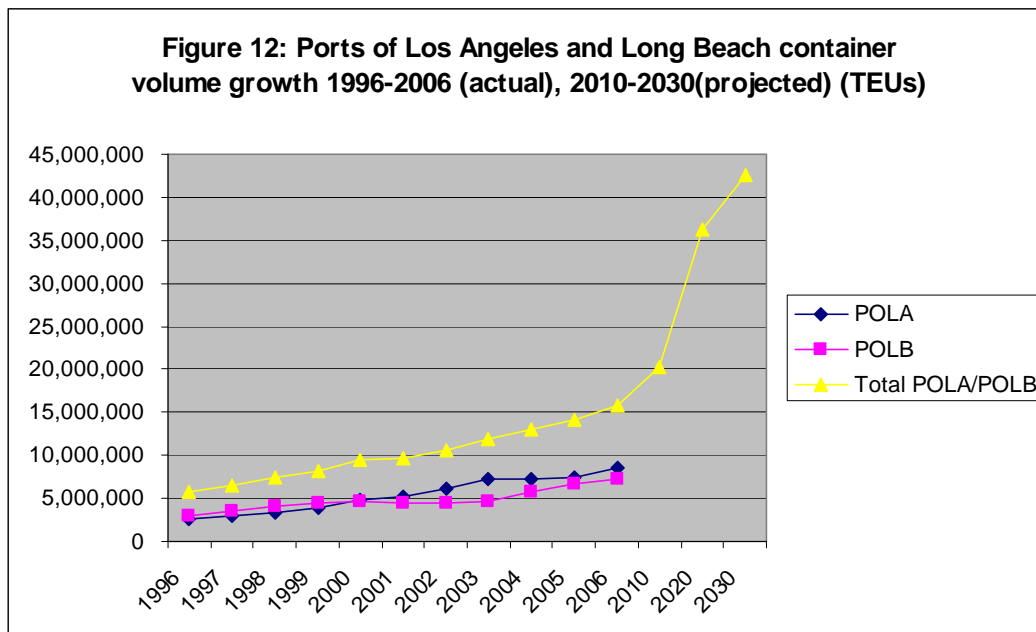
## Los Angeles County Goods Movement System

Los Angeles County is the nation's gateway to Asian trade and provides access to the heavily utilized Pacific Rim trade routes. Goods movement in the county utilizes a system of seaports, airports, intermodal facilities, and warehousing that are linked by freight rail lines, highways, and arterials.

### SEAPORTS

Los Angeles County is the gateway to the Pacific Rim and is home to the Port of Long Beach (POLB) and Port of Los Angeles (POLA). In 2006, POLA handled about 8.5 million and POLB handled about 7.2 million twenty foot equivalent unit (TEU) containers, which ranked as the largest

and second largest ports, respectively, in the U.S. Between 1996 and 2006, port volume has increased more than 150 percent (Figure 12). When combined, the ports handled 15.7 million TEUs, making them the fifth largest in the world. Container volume at the ports represents one-third of all U.S. waterborne container traffic and six times the volume handled at the Bay Area ports. Three quarters of the trade through the ports is produced or consumed outside Southern California. Nearly \$256 billion in containerized trade passed through the ports in 2005 and supported a national total of 3.3 million jobs generating over \$100 billion in income. The Ports forecast that they will be handling 36.2 million TEUs by 2020 and 42.5 million TEUs by 2030.



Sources: American Association of Port Authorities, Ports of Los Angeles and Long Beach

The POLA handled cargo worth \$205.6 billion in FY 2006. Top trading partners (by cargo value) in FY 2006 were China, Japan, Taiwan, South Korea, and Thailand. Leading containerized exports (in FY 2006 by TEU volume) at the POLA include paper products, fabric (including raw cotton), pet and animal feed, metal scrap, and synthetic resins. Leading containerized imports (in FY 2006 by TEU volume) at the POLA include furniture, apparel, computers and office machines, toys and sporting goods, and vehicles and vehicle parts<sup>3</sup>.

The POLB handled over 159 million metric revenue tons (MRT) in calendar year 2005. The cargo passing through the POLB in 2005 was valued at approximately \$100 billion. Top ten trading partners with the POLB are China, South Korea, Japan, Hong Kong, Malaysia, Ecuador, Mexico, Indonesia, Taiwan, and Thailand. Leading exports by tonnage at the POLB include petroleum, chemicals, wastepaper, petroleum coke, scrap metal, plastics, foods, electronics, steel, cotton, and machinery. Leading imports by tonnage at the POLB include petroleum, electronics, plastics, furniture, clothing, machinery, rubber, cement, chinaware, and hardware<sup>4</sup>.

## AIRPORTS

The county has three major commercial airports- Los Angeles International Airport (LAX), Bob Hope Airport (BUR), and Long Beach Airport (LGB). The other airports located in the county are Palmdale Regional Airport (PMD) located in Antelope Valley and Van Nuys Airport (VNY) located in San Fernando Valley, both of which do not handle air cargo.

In 2005, LAX, LGB, and BUR handled 2,244,353 air cargo tons, accounting for 79 percent of total SCAG air cargo tonnage. LAX handled 95 percent of this with 2,137,188 tons. The remainder was contributed by Long Beach (54,298 tons) and Burbank (52,867 tons). Table 3 summarizes air cargo flows for the SCAG region counties.

**Table 3**  
**Annual Air Cargo Activity 2003-2005 MCGMAP Study Area Airports**

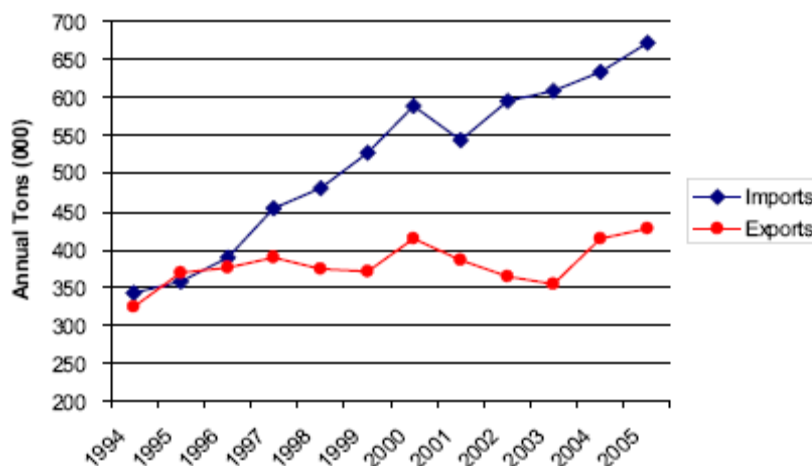
Airport	2003	2004	2005	2005 SCAG Market Share
Los Angeles (LAX)	2,022,076	2,115,314	2,137,188	75.20%
Ontario (ONT)	571,992	605,211	575,369	20.20%
Long Beach (LGB)	56,081	57,050	54,298	1.90%
Bob Hope (BUR)	47,634	49,633	52,867	1.90%
John Wayne (SNA)	15,816	20,796	24,103	0.80%
Total	2,713,599	2,848,004	2,843,825	100.00%

Source: SCAG Region Aviation Activity Report, 2003-2005

**Los Angeles International Airport** - LAX is the world's sixth busiest airport in air cargo tonnage, handling approximately 2.13 million tons in 2005. The leading reason for the concentration of air cargo activity at LAX is the broad range of service options and flights available to service providers. As a whole, air cargo carriers and service providers tend to gravitate toward airports that offer the broadest range of flights and destination options. Air cargo is a time sensitive business, and service providers want the flexibility to choose between a variety of different flight options to meet customer service and pricing needs. LAX offers the greatest variety of flights and destinations making it a preferred location for service providers. Of course, other factors such as infrastructure to support cargo operations, including air freight terminals, runways for larger aircraft, freight forwarders, trucking companies, customs, and Department of Agriculture inspections are also important.

Los Angeles World Airports (LAWA) notes that the greater Los Angeles region's international trade is valued at \$200 billion, and LAX alone is responsible for more than \$69 billion in exports and imports. Between 2000 and 2005, tonnage of international air freight passing through LAX rose 9.3 percent, imports grew by 13.9 percent, and exports grew by 2.8 percent. Figure 13 depicts historical trends in air freight imports and exports at LAX.

Figure 13  
Air Freight Imports and Exports via Los Angeles International Airport  
(1994- 2005)



Source: LAWA international freight statistics, 1994-2005

Airport property within the City of Los Angeles is 3,651 acres, constituting a large industrial district. The airport consists of the following cargo-specific facilities and uses:

- ◆ Four runways
- ◆ Four million square feet (SF) of passenger terminal space, including nine terminals and 163 aircraft gates
- ◆ 170 acres of cargo ramp and 2 million SF of building space concentrated in three cargo complexes
- ◆ Approximately 50 trucking firms operate terminals within two miles of the airport perimeter

**Long Beach Airport** - Situated in Los Angeles County, LGB handled 54,300 tons of air cargo in 2005. It is served by FedEx, Airborne Express, and UPS. The airport has four smaller runways ranging from 4,200 to 6,200 feet and one primary runway at 10,000 feet. The airport occupies 1,166 acres.

**Bob Hope Airport in Burbank** - BUR is the closest airport to downtown Los Angeles. The airport handled nearly 52,900 tons of cargo in 2005, 42 percent of which was inbound and 58 percent of which was outbound. The airport has two runways, one is 6,900 feet and the other is 5,800 feet.

**Palmdale Regional Airport** - Located in the Antelope Valley and the northeast portion of the city of Palmdale, PMD is on a 60-acre site at United States Air Force Plant 42. The airport is owned and operated by LAWA under a joint-use agreement with the U.S. Air Force. The airport has three

runways and features a modern 9,000 SF terminal capable of handling up to 300,000 passengers annually. PMD has no commercial service at this time and no reported cargo activity.

**Van Nuys Airport** - VNY is located in the heart of the San Fernando Valley and averages nearly one-half million takeoffs and landings annually, with 454,753 total operations in 2004. It is one of the four airports owned and operated by LAWA. Van Nuys Airport covers 725 acres and has two runways. VNY is a general aviation airport and has no commercial passenger service or reported air cargo activity.

## INTERMODAL FACILITIES

Intermodal facilities allow for the transfer of containers between rail and truck. The location of an intermodal yard, relative to the ports, impacts the level of truck travel through the study area. The two types of intermodal terminals include on-dock rail terminals and near/off-dock terminals.

On-dock terminals are single-user facilities fed directly from an ocean vessel and are located within the POLA and POLB. Near/Off-dock facilities are typically common user facilities that create blocks of traffic built by terminal operators to match the markets served by the trains. For example, all Chicago freight is grouped together and separated from Dallas or Kansas City blocks of traffic. Five near/off-dock intermodal facilities are located in Los Angeles County. These include the Union Pacific in the City of Industry, City of Commerce, Intermodal Container Transfer Facility (ICTF), the Los Angeles Transportation Center (LATC) in Los Angeles, and the BNSF Hobart Yard in the City of Commerce. The two types of terminal facilities have important safety and velocity differences. On-dock terminals have been very successful in reducing truck traffic. A truck carrying a port-generated container to an intermodal yard near a port will travel a shorter distance than a truck going to an inland facility, or an off-dock intermodal yard. In 2005, over 1.6 million lifts (21 percent of the San Pedro Bay ports volume) were handled at the on-dock rail yards, while near/off-dock yards handled 19.5 percent of San Pedro Bay ports volume<sup>5</sup>.

The efficiency of an intermodal yard has an impact on overall productivity and velocity of the goods movement system. Intermodal throughput capacity is affected by the types of operations and practices utilized by the railroads operating the intermodal yards. For example, the UP uses a "wheeled operation" at its Intermodal Container Transfer Facility (ICTF), where almost every container is stored on a trailer chassis. While this lowers the cost of operations, it also limits the container throughput per acre. In comparison, the BNSF uses management techniques to increase throughput per acre at its Hobart facility, including stacking containers vertically, allocating containers (per carrier), and imposing fees on containers that stay longer than a day. The result is that throughput per acre and per year is twice as high at Hobart as it is at ICTF. Marine terminal on-dock rail yards have a different set of safety concerns than off-dock rail facilities. These safety issues are driven by the marine terminal workers.

Based on acreage and volume data for various intermodal terminals in the Los Angeles County, the annual per acre throughput estimates are as follows:

- ◆ **UP's Los Angeles Transportation Center (LATC)** – 130 acres with 250,000 lifts annually - 2,100 lifts per acre<sup>6</sup>
- ◆ **UP's East Los Angeles (East LA)** - 150 acres with 450,000 lifts annually (high) - 3,200 lifts per year (capacity is 550,000 lifts per year - 3,900 lifts per acre)<sup>7</sup>. Forty-five percent of the intermodal lifts are international and 55 percent are domestic. This facility is a major processor of international containers. The City of Industry intermodal facility is situated within city limits and is operated as a domestic container facility.
- ◆ **UP's Intermodal Container Transfer Facility (ICTF)** - 237 acres with 650,000 lifts in 2005 - 2,700 lifts per acre (capacity is 850,000 lifts annually – 3,500 lifts per acre).
- ◆ **BNSF's Hobart Yard** - 245 acres with 1,350,000 lifts in 2005 – 5,500 lifts per acre. This facility is the largest intermodal operation in the U.S. when measured by volume. The annual throughput per acre is more than 10,000 TEUs.

## WAREHOUSING

As illustrated in Figure 14, warehousing in the county is concentrated in the City of Industry, along SR-60, in the Alameda corridor south of SR-91 and two concentrations along I-5 near the Orange County line and south of the intersection of I-710.

The greater Los Angeles County area is attractive to warehousing and distribution centers due to its proximity to ports and consumers, a large and available labor force, and existing transportation hubs. There are three primary types and sizes of warehouses:

- ◆ Private and third-party refrigerated or cold storage warehouses grouped near ports, with clusters near downtown Los Angeles and Vernon. These warehouses tend to be smaller than 100,000 SF.
- ◆ Third-party transloading, cross-docking, and value-added distribution centers grouped near ports. These warehouses tend to be between 50,000 SF and 150,000 SF.
- ◆ A mixture of private and third-party warehouses clustered in "Mid-County", "San Gabriel Valley", and "Gateway Cities" such as the City of Industry, Santa Fe Springs, Cerritos, and La Mirada. These types of warehouses have between 50,000 SF and 150,000 SF and a concentration of local food, beverages, and paper goods distribution.

According to the U.S. Census Bureau, there were a total of 1,101 warehouses and storage facilities in Los Angeles County in 2001. The Census Bureau's definition for warehousing and storage sector is based on industry codes 48 and 49 under the North American Industry Classification System (NAICS). Among them, 63 percent are general warehousing and storage, 20 percent are refrigerated warehousing and storage, 10 percent are other warehousing and storage, and the remaining seven percent are used for farm product warehousing and storage.



- ✈ Airports
- ⚓ Ports
- Freeways
- Highway
- Urban Areas
- Wholesaling/Warehousing

# Multi-County Goods Movement Action Plan

## Warehouse Land Use

0 5 10 20 Miles



Sources:  
StreetMap 2006  
SCAG 2000 Land Use

**Figure 14**

Los Angeles' industrial market remains one of the strongest in the study area. The availability rate for the county continues to decline and the overall vacancy rate is also declining. Construction of new industrial facilities has increased, with approximately 8.8 million SF already in the planning and development phase.

The potential for warehousing growth in Los Angeles County is limited by the following conditions:

- ◆ Many buildings are old and too small for current operations
- ◆ Large blocks of land for new facilities are in short supply
- ◆ Lease costs are relatively high
- ◆ Increased highway and railroad congestion

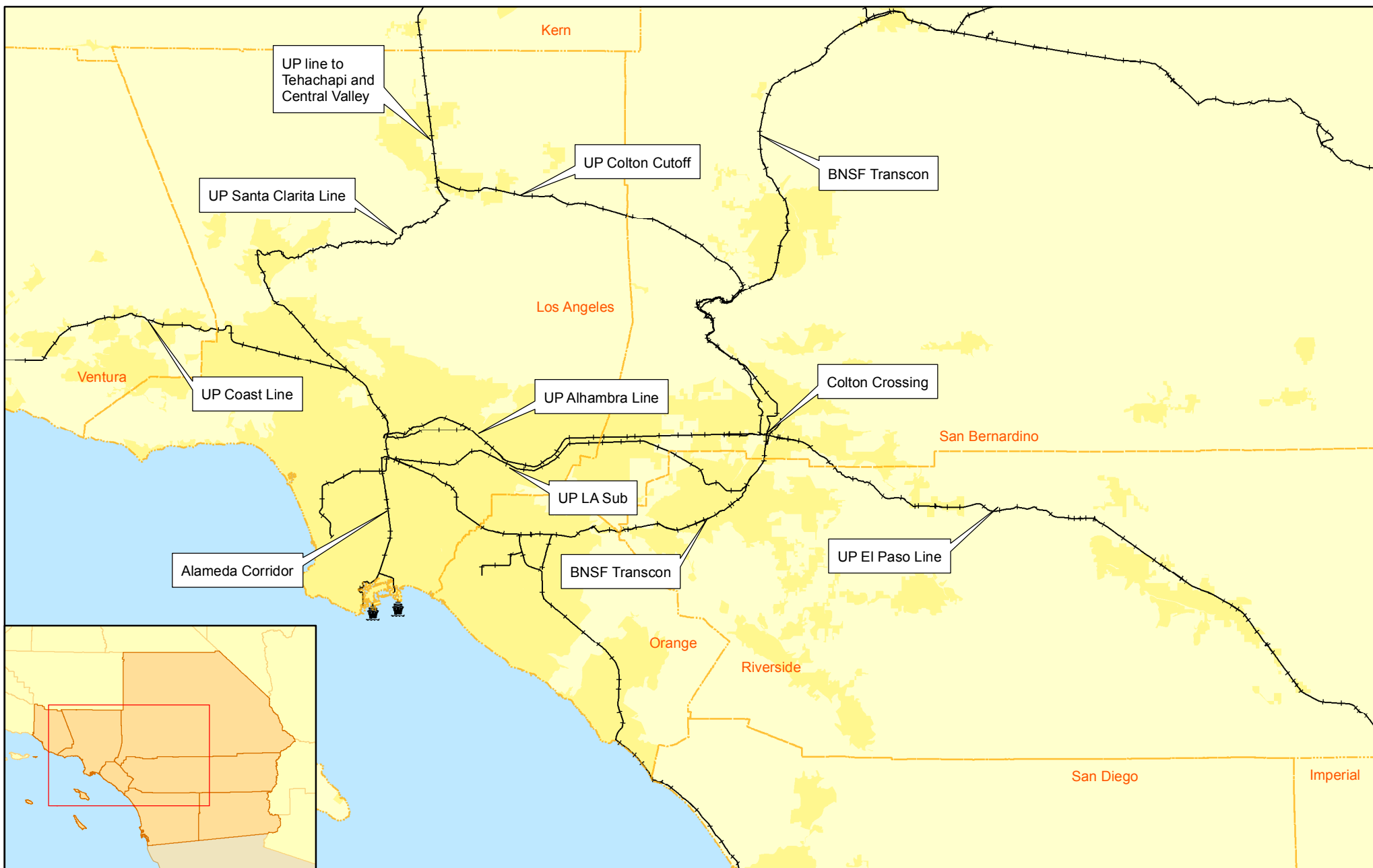
A contributing factor to the strong industrial market in Los Angeles County is the high volume of manufacturing activity occurring within the county. According to the Los Angeles County Economic Development Corporation (LAEDC), 11 percent (approximately 808,000 jobs) of the five county (Los Angeles, Orange, Riverside, Ventura and San Bernardino Counties) Southern California region's total employment is factory [manufacturing] jobs. The LAEDC points out that more than two-thirds of these manufacturing jobs are at companies with fewer than 250 employees; however, the LAEDC states that Los Angeles County as a whole is the nation's largest manufacturing center.





## RAIL

Freight trains in the County primarily utilize three east-west rail lines, the Alameda Corridor, and short lines. These lines provide connections between the Ports of Los Angeles and Long Beach, the Los Angeles Basin, and the transcontinental rail system. International container traffic going to and from the POLA and POLB is routed along the Alameda Corridor then either through the BNSF Transcon west of San Bernardino, the UP Los Angeles Subdivision, or the UP Alhambra Subdivision as shown in Figure 15. Passenger trains including Amtrak (intercity passenger rail) and Metrolink commuter (transit rail) operations share the freight rail network in the county.

The three basin lines transport more than 98 percent of all Los Angeles and Long Beach port intermodal traffic (which includes about 52 percent of the total San Pedro Bay ports container volume as well as transload and intermodal volumes). These lines also transport all automobile rail loads imported and exported through the ports of Los Angeles, Long Beach, San Diego, and Hueneme. In addition, the lines transport carload traffic and connect to branch lines in the basin.

The BNSF Transcon runs from San Bernardino to downtown Los Angeles, where it connects to the triple track Alameda Corridor and eventually to the POLA and POLB. UP's Los Angeles Subdivision runs from West Riverside to downtown Los Angeles, and the Alhambra Subdivision runs from Colton in San Bernardino County to downtown Los Angeles. Both lines connect to the Alameda Corridor. They also connect to the north-south rail routes for UP, the Coast and the Santa Clarita Lines.



-  Airports
-  Ports
-  Railroad
-  Urban Areas

## Multi-County Goods Movement Action Plan Railroad Lines

0 15 30 60 Miles



Sources:  
StreetMap 2006  
MCGMAP Tech Memo 3 2006

**Figure 15**

Metrolink operates its 91 Line service, its Inland Empire Orange County Line service, and its Orange County Line service on the BNSF Transcon. Amtrak's long distance Southwest Chief and the Amtrak Pacific Surfliners also operate on the Transcon.

The markets served by BNSF and UP generate significant train volumes. The average east-west daily train count on BNSF during the late week period (Wednesday-Friday, the busiest days) is included in Table 4. Table 5 provides the average east-west daily train counts on UP (Wednesday-Friday, the busiest days) at West Riverside on the Los Angeles Subdivision and South Fontana on the Alhambra Subdivision. Passenger trains include Metrolink commuter trains, Pacific Surfliner trains, and Amtrak long distance trains. Most of the passenger trains on BNSF Los Angeles Basin lines travel between Los Angeles and Fullerton.

**Table 4**  
**Average Daily Trains on BNSF East-West Mainline between Hobart Yard and Fullerton**  
**Wednesday-Friday**

Transcon	2003	2004	2005 (thru July)
Freight	47	49	48
Passenger	52	52	57
<b>TOTAL</b>	<b>99</b>	<b>101</b>	<b>105</b>

Sources: BNSF, 2005; and Metrolink, 2006

**Table 5**  
**Average Daily Trains on UP East-West Mainlines at Fontana on the Alhambra**  
**Subdivision and at West Riverside on the Los Angeles Subdivision**  
**Wednesday-Friday**

Los Angeles Subdivision	2003	2004	2005 (thru July)
Freight	22	24	23
Passenger	12	12	12
<b>Total</b>	<b>34</b>	<b>36</b>	<b>35</b>
Alhambra Subdivision	2003	2004	2005 (thru July)
Freight	41	44	43
Passenger	1	1	1
<b>Total</b>	<b>42</b>	<b>45</b>	<b>44</b>
<b>Grand Total</b>	<b>76</b>	<b>81</b>	<b>79</b>

Source: "The Los Angeles-Inland Empire Railroad Mainline Advanced Planning Study", Los Angeles County Economic Development Corporation (LAEDC) for SCAG, 2002.

## Alameda Corridor

Opened in April 2002 at a cost of \$2.4 billion, the Alameda Corridor is one of the largest public/private goods movement projects in the nation. The Alameda Corridor is a completely grade separated rail line connecting POLA/POLB to the downtown Los Angeles rail yards. It has doubled railroad speeds and eliminated conflict at 200 at-grade crossings, resulting in significant air quality and community benefits. The Corridor was financed through a combination of local funds, loans,

and revenue bonds, which are being repaid by fees collected on containers using the Corridor. Fees vary by the type of container, with one waterborne loaded TEU paying \$16.75 per hour. In 2007, the Corridor handled an average of 49 trains per day<sup>8</sup>.

### Short Lines

The Los Angeles Junction Railway (LAJ) operates in the cities of Commerce and Vernon. LAJ is a wholly-owned subsidiary of BNSF. UP has access to all customers through LAJ. The track and property are owned by BNSF, but are maintained and dispatched by LAJ.

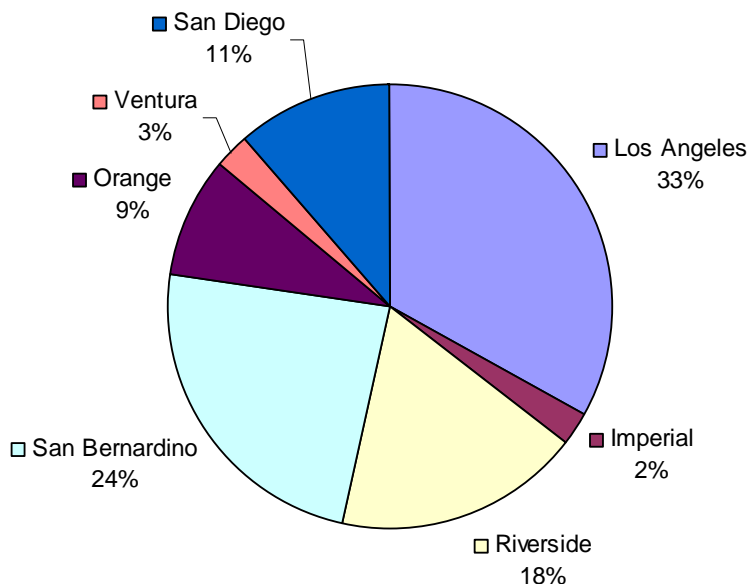
### ROADWAY SYSTEM & TRUCK FLOWS

The roadway system within Los Angeles County can be divided into three primary components: freeways, arterials, and local roads. The purpose of each of those components, in terms of goods movement, is summarized below:

- ◆ Freeways link the cities throughout Los Angeles County to the adjoining counties, states, and nations. For the purposes of this report, the term freeway refers to both interstate highways and state highways. The freeways in Los Angeles County link the freight gateways (ports, intermodal facilities, etc.) to markets throughout the United States, Canada, and Mexico. Freeways provide the infrastructure to service the short-, medium-, and long-haul (or line-haul) portions of truck trips. The Los Angeles County freeway system carries approximately 52 percent of all Los Angeles County trips, which are served by a large number of limited access highways. The major limited access highways that serve goods movement are I-5, I-10, SR-60, SR-91, I-605 and I-710.
- ◆ Arterials serve as the link between freeways and local roads. The arterials in Los Angeles County provide the necessary connectivity for both personal and commercial transportation. According to the 2004 SCAG RTP, these facilities often act as alternatives to freeways. This is especially true in the case of short-haul trips between adjacent cities in the study area, as well as between major goods movement activity centers such as ports' intermodal yards and warehousing areas.
- ◆ Local Roads provide the final link between the freight gateways and the local markets. Local roads are commonly utilized to travel from the arterials to the warehouse and distribution facilities. The impacts of truck traffic can sometimes appear greater on local facilities due to limited size and capacity. The majority of truck trips on local roads are of short length, representing the first or last stage in goods movement between distribution centers, markets, or both. Local roads could be used as detours when freeways fail due to non-recurrent congestion. For example, when I-710 shuts down, Long Beach Boulevard and Alameda Street (north-south arterials parallel to I-710) serve as alternate routes, and Washington Boulevard serves as a detour option for I-10.

Figure 16 shows the distribution of truck traffic in the region by county, measured in terms of truck miles of travel on the state highway system. Los Angeles County accounts for 33 percent of the total regional truck miles of travel – the highest in the region.

Figure 16  
Distribution of Truck Travel by County



Source: "Truck Miles of Travel: California State Highway System 1988-2003," California Department of Transportation (Caltrans), 2005

Table 6 shows the 2003 truck volumes on the county's freeway segments. Some of the heavily used truck corridors in the county include the following:

Table 6  
2003 Truck Volumes on County's Freeway Segments

Route	Segments	County	Year 2003 Trucks ADT by Direction		Total Truck ADT 2003
			N/E	S/W	
I-10	PCH to I-405	Los Angeles	5,555	5,083	10,638
I-10	I-405 to I-110	Los Angeles	5,183	5,456	10,639
I-10	I-110 to I-5	Los Angeles	6,862	6,356	13,218
I-10	I-5 to I-710	Los Angeles	3,868	4,160	8,028
I-10	I-710 to I-605	Los Angeles	6,498	7,160	13,658
I-10	I-605 to SR-57	Los Angeles	7,900	9,001	16,901
I-10	SR-57 to I-15	San Bernardino/Los Angeles	9,863	8,140	18,003
I-101	I-5 to I-10	Los Angeles	4,000	4,589	8,589
I-101	I-10 to I-110	Los Angeles	5,560	5,838	11,398

**Table 6**  
**2003 Truck Volumes on County's Freeway Segments**

Route	Segments	County	Year 2003 Trucks ADT by Direction		Total Truck ADT 2003
			N/E	S/W	
I-101	I-110 to I-170	Los Angeles	3,772	3,966	7,738
I-101	SR-170 to I-405	Los Angeles	3,932	3,806	7,738
I-101	I-405 to SR-23	Ventura/Los Angeles	4,885	5,390	10,275
I-105	PCH to I-405	Los Angeles	5,928	5,281	11,209
I-105	I-405 to I-110	Los Angeles	5,500	5,709	11,209
I-105	I-110 to I-710	Los Angeles	8,782	8,585	17,367
I-105	I-710 to I-605	Los Angeles	8,889	8,357	17,346
I-110	Arroyo Pky to I-10	Los Angeles	241	210	451
I-110	I-10 to I-105	Los Angeles	7,808	7,580	15,388
I-110	I-105 to SR-91	Los Angeles	8,595	7,972	16,567
I-110	SR-91 to I-405	Los Angeles	11,175	7,610	18,785
I-110	I-405 to SR-47	Los Angeles	4,594	6,432	11,026
I-210	SR-14 to SR-118	Los Angeles	4,982	4,496	9,478
I-210	SR-118 to SR-2	Los Angeles	4,765	5,286	10,051
I-210	SR-2 to SR-134	Los Angeles	9,383	6,735	16,118
I-210	SR-134 to I-605	Los Angeles	7,679	8,439	16,118
I-210	I-605 to SR-57	Los Angeles	3,432	3,448	6,880
I-405	I-605 to I-710	Los Angeles	5,431	4,169	9,600
I-405	I-710 to I-110	Los Angeles	6,796	9,006	15,802
I-405	I-110 to SR-91	Los Angeles	5,729	5,846	11,575
I-405	SR-91 to I-105	Los Angeles	6,028	5,849	11,877
I-405	I-105 to I-10	Los Angeles	6,178	5,700	11,878
I-405	I-10 to US-101	Los Angeles	6,933	6,085	13,018
I-405	US-101 to I-5	Los Angeles	4,572	4,122	8,694
I-5	SR-118 to SR-14	Los Angeles	6,016	6,020	12,036
I-5	SR-134 to SR-118	Los Angeles	8,475	7,922	16,397
I-5	SR-60 to SR-134	Los Angeles	9,751	8,233	17,984
I-5	I-710 to SR-60	Los Angeles	10,643	9,474	20,117
I-5	I-605 to I-710	Los Angeles	11,042	10,018	21,060
I-5	Los Angeles County Line to I-605	Los Angeles	10,906	9,751	20,657
I-5	SR-57 to Los Angeles County Line	Los Angeles	9,490	8,710	18,200
I-605	I-405 to SR-91	Los Angeles	4,317	4,341	8,658
I-605	SR-91 to I-105	Los Angeles	5,663	5,773	11,436
I-605	I-105 to I-5	Los Angeles	19,005	18,695	37,700
I-605	I-5 to SR-60	Los Angeles	17,803	18,061	35,864
I-605	SR-60 to I-10	Los Angeles	10,201	17,449	27,650
I-605	I-10 to I-210	Los Angeles	9,898	9,491	19,389

**Table 6**  
**2003 Truck Volumes on County's Freeway Segments**

Route	Segments	County	Year 2003 Trucks ADT by Direction		Total Truck ADT 2003
			N/E	S/W	
I-710	Port to I-405	Los Angeles	12,931	13,199	26,130
I-710	I-405 to SR-91	Los Angeles	19,351	18,537	37,888
I-710	SR-91 to I-105	Los Angeles	18,719	19,553	38,272
I-710	I-105 to I-5	Los Angeles	18,277	18,273	36,550
I-710	I-5 to SR-60	Los Angeles	5,512	5,873	11,385
I-710	SR-60 to I-10	Los Angeles	5,158	6,227	11,385
I-710	I-10 to I-210	Los Angeles	216	1,281	1,497
SR-134	I-5 to I-210	Los Angeles	2,988	2,720	5,708
SR-134	I-101 to I-5	Los Angeles	2,850	2,858	5,708
SR-57	SR-91 to SR-60	Orange/Los Angeles	10,404	9,996	20,400
SR-57	SR-60 to I-10	Los Angeles	4,718	4,636	9,354
SR-57	I-10 to I-210	Los Angeles	7,967	8,127	16,094
SR-60	I-10 to I-710	Los Angeles	5,116	5,048	10,164
SR-60	I-710 to I-605	Los Angeles	7,546	8,529	16,075
SR-60	I-605 to SR-57	Los Angeles	9,202	10,593	19,795
SR-60	SR-57 to I-15	Riverside/Los Angeles	10,771	13,569	24,340
SR-91	I-10 to I-710	Los Angeles	7,021	6,589	13,610
SR-91	I-710 to I-605	Los Angeles	12,492	12,788	25,280
SR-91	I-605 to I-5	Los Angeles	12,092	13,188	25,280
SR-118	I-405 to SR-23	Ventura/Los Angeles	11,076	14,204	25,280
SR-170	I-5 to SR-134	Los Angeles	3,339	3,337	6,676

Source: Caltrans, Traffic and Vehicle Data Systems Unit, 2004 Truck; Wilbur Smith Associates, 2007

Departing trucks must travel through Los Angeles County to reach destinations within the study area. Freeway facilities near ports carry high volumes in truck traffic. Roadway facilities are used to carry goods from the Ports to inland distribution warehouses and/or rail yards; this constitutes one of the first links in the goods movement supply chain. Transport of transloaded goods represents the second and/or third links of the goods movement supply chain. Therefore, more secondary and tertiary truck trips are carried on freeways and roadways further inland from the Ports.

In 2004, the POLA commissioned the Baseline Transportation Study to identify existing truck traffic volumes to and from the port.<sup>9</sup> The study yielded data that identified specific port-related truck traffic on roadways within the study area. The study defines port-related trucks as container trucks traveling to and from the San Pedro Bay port facilities. The 2004 POLA study data was analyzed in conjunction with Caltrans truck count data for identical roadway segments and identified the percentage of port-related trucks compared to total truck volumes on study area roadways. The result of this analysis is shown in Table 7.

**Table 7**  
**Comparison of Port Truck Volumes to Total Daily Truck Volumes**  
**on Study Area Roadways, Year 2003**

Highways	Segments	Total Daily Vehicle Volume	Total Daily Truck Volume	Daily Port Truck Volume	Total Trucks as % of Total Vehicle Volume	Port Trucks as % of Total Truck Volume
I-110	PCH to Sepulveda	148,000	9,900	7,810	6.7%	78.9%
	Sepulveda to I-405	226,000	11,900	7,335	5.3%	61.6%
	I-405 to SR-91	266,000	23,900	6,015	9.0%	25.2%
	SR-91 to I-105	247,000	17,800	4,680	7.2%	26.3%
I-710	I-105 to I-10	324,000	15,900	2,485	4.9%	15.6%
	PCH to Willow	146,000	25,400	23,900	17.4%	94.1%
	Willow to I-405	161,000	27,100	23,235	16.8%	85.7%
	I-405 to SR-91	186,000	31,400	20,045	16.9%	63.8%
	SR-91 to I-105	227,000	38,300	15,315	16.9%	40.0%
	I-105 to I-5	237,000	34,600	11,685	14.6%	33.8%
	I-5 to SR-60	199,000	24,200	1,025	12.2%	4.2%
	SR-60 to I-10	132,000	11,300	845	8.6%	7.5%
I-405	I-605 to I-710	289,000	15,700	1,875	5.4%	11.9%
	I-710 to I-110	283,000	15,400	2,965	5.4%	19.3%
	I-110 to SR-91	270,000	14,600	1,960	5.4%	13.4%
	SR-91 to I-105	294,000	12,100	1,810	4.1%	15.0%
	I-105 to I-10	310,000	12,800	1,590	4.1%	12.4%
SR-91	SR-57 to I-5	250,000	21,800	1,135	8.7%	5.2%
	I-5 to I-605	283,000	39,900	1,470	14.1%	3.7%
	I-605 to I-710	263,000	37,100	2,870	14.1%	7.7%
	I-710 to I-110	212,000	13,700	1,385	6.5%	10.1%
	I-110 to I-405	67,000	1,500	195	2.2%	13.0%
I-105	I-605 to I-710	212,000	18,800	2,800	8.9%	14.9%
	I-710 to I-110	231,000	14,700	1,605	6.4%	10.9%
	I-110 to I-405	243,000	13,800	390	5.7%	2.8%
I-5	SR-57 to SR-91	223,000	21,400	225	9.6%	1.1%
	SR-91 to I-605	199,000	18,600	160	9.3%	0.9%
	I-605 to I-710	249,000	23,200	195	9.3%	0.8%
	I-710 to SR-60	267,000	20,600	1,800	7.7%	8.7%
SR-60	SR-60 to I-10	247,000	20,400	710	8.3%	3.5%
	SR-57 to I-605	265,000	23,200	1,560	8.8%	6.7%
I-10	SR-57 to I-605	259,000	18,100	1,775	7.0%	9.8%
	I-605 to I-710	234,000	14,200	585	6.1%	4.1%
	I-710 to I-5	254,000	9,000	190	3.5%	2.1%
	SR-60 to I-110	284,000	21,600	300	7.6%	1.4%
I-605	I-405 to SR-91	245,000	11,300	20	4.6%	0.2%

**Table 7**  
**Comparison of Port Truck Volumes to Total Daily Truck Volumes**  
**on Study Area Roadways, Year 2003**

Highways	Segments	Total Daily Vehicle Volume	Total Daily Truck Volume	Daily Port Truck Volume	Total Trucks as % of Total Vehicle Volume	Port Trucks as % of Total Truck Volume
	I-105 to I-5	297,000	41,900	4,100	14.1%	9.8%
	I-5 to SR-60	265,000	37,400	3,825	14.1%	10.2%
	SR-60 to I-10	224,000	26,800	1,815	12.0%	6.8%
SR-57	I-5 to SR-91	276,000	18,800	10	6.8%	0.1%
	SR-91 to SR-60	296,000	23,400	135	7.9%	0.6%
	SR-60 to I-10	139,000	8,100	40	5.8%	0.5%

Sources: "Baseline Transportation Study," Port of Los Angeles, 2004, p. 39; Caltrans Truck Volumes 2004 (Year 2003 Data)

The following key observations can be made from this data:

- ◆ I-710 is the primary and dominant corridor for port-specific traffic
- ◆ An inverse relationship exists between distance to the ports and port-related traffic: as distance to the port increases, direct port-related truck volume decreases.

The 2004 POLA study states that a significant decrease in container truck activity was noted on the I-710 and I-110 freeways during congestion. However, less of a reduction was noted on SR-60 and SR-91,<sup>10</sup> due to the fact that these facilities were used by large shippers of domestic and transloaded cargo (such as Wal-Mart and Target), transported with the trucks to inland destinations.

## County Specific Challenges and Issues

In Los Angeles County, goods movement issues do not influence all of the subregions in the same manner. The west side of the county faces issues similar to those faced in Ventura County, and the east side of the county faces issues similar to those faced in Riverside and San Bernardino Counties. Certain issues are more pronounced near the ports, a key generator of freight volume.

Los Angeles County faces the following critical issues (not in priority order):

- ◆ Environmental and community impacts, and potential health risks
- ◆ Increasing rail and truck volume and their associated impacts
- ◆ Port, intermodal, and air cargo capacity
- ◆ Economic growth
- ◆ Funding limitations

**ENVIRONMENTAL AND COMMUNITY IMPACTS, AND POTENTIAL HEALTH RISKS**

Throughout the stakeholder outreach process of the MCGMAP, members of the local communities in and around areas of high goods movement activity expressed concerns about impacts caused by goods movement. In addition, numerous studies have shown that the movement of goods throughout the MCGMAP region results in adverse impacts to the environment, community, and quality of life. The residents of Los Angeles County are aware of the impacts of goods movement and have voiced their concern to public agencies planning and implementing goods movement projects. Some stakeholders within Los Angeles County have made it clear that they will oppose any future enhancements to the county's goods movement system unless mitigation measures are first implemented to reduce existing impacts to the environment and community. In addition to air quality, the goods movement industry impacts almost all other areas of the environment and community, including water, health, noise, lighting, hazardous materials, and general quality of life.

In Los Angeles County, goods movement negatively impacts air quality. This is due to the high amount of goods movement activity from ocean-going vessels, trucks, locomotives, and other cargo handling activities associated with the movement of goods and the reliance on diesel fuel by the goods movement industry for mobility and operations. As discussed in Chapter 5 of the MCGMAP, diesel fuel results in the emissions of diesel particulate matter (DPM), which has been identified as a toxic air contaminant (TAC) by the state's Office of Environmental Health Hazard Assessment (OEHHA). Diesel fuel is also a significant contributor of nitrogen oxides (NOx), the primary pollutant for ozone formation. Both DPM and NOx are linked to various health issues for susceptible populations like the young and the elderly; as well as people with cancer and asthma, preterm births, and low birth weight babies.

Further health effects can be attributed to diesel particulate matter according to research compiled by the Keck School of Medicine of University of Southern California (USC). This research determined an increase in the following incidences:

- ◆ Asthma
- ◆ Preterm and low birth weight babies
- ◆ Cardiac birth defects
- ◆ Thickening of arterial walls
- ◆ Oropharyngeal (mouth and throat) cancer
- ◆ Slowed lung development in children

Also, there is concern about the health of people residing in proximity to goods movement facilities and corridors. There are 46 schools located within two miles of the Port of Los Angeles or the Port of Long Beach (i.e., San Pedro Bay ports) as displayed in Figure 17.

Figure 17  
Schools Located Within a 2-Mile Radius of San Pedro Bay Ports



Source: 2000 U.S. Census TIGER Data

Goods movement accounts for one-third of total NO<sub>x</sub> emissions and six percent of total PM-10 emissions<sup>11</sup> with heavy duty trucks as the largest source of emissions. Heavy duty trucks that meet the 2007/2010 EPA emissions standards will significantly lower emissions even with increases in vehicle miles traveled. Ocean-going vessel (OGV) emissions will continue to grow. In 2030, OGV emissions in the South Coast Air Basin will be three times the current level. Without additional caps, locomotive emissions will also increase. Harbor craft and port handling equipment emissions are expected to decline<sup>12</sup> due to proactive steps taken by ports and nearby communities.

Due to the current dependency of the goods movement industry on diesel fuel, this plan discusses the need for emission reduction from goods movement mobile sources including OGVs, on-road heavy-duty vehicles, cargo handling equipment, harbor craft, and railroad locomotives. There are a number of strategies included in the SCAG/ICF International study entitled "Environmental Mitigation Plan for Goods Movement in Southern California" that reduce emission from these sources. Implementation of the strategies outlined in the SCAG/ICF Study will have a linear effect on the reduction of emissions (e.g. a 20 percent penetration will have twice the emission reduction of a 10 percent penetration).

In addition to goods movement-related emissions, other impacts on local communities should also be recognized. These include:

- ◆ Noise
- ◆ Traffic congestion
- ◆ Land use conflicts such as residential neighborhoods located adjacent to goods movement facilities and/or activities,
- ◆ Visual impacts or views blocked by stacks of containers/blight

Noise impacts occur in association with loading and unloading activities, and along rail and truck routes that support the movement of trains or trucks. Congestion on freeways and the street network can compound noise impacts from trucks, from the sounds created by their braking and acceleration. To the extent that congestion on streets that serve warehouse operations increases over time, the potential for noise impacts also increases. Communities located near the air and water ports, rail yards, and other transfer points frequently complain about the annoyances associated with the operations of these facilities.

Furthermore, rail noise impacts arise from the sound of at-grade crossing warning devices. Since safety regulations require that these devices be sounded as a train approaches and during the entire time that the train is passing through the crossing, the noise impact can occur for several minutes at a time. Concurrently, while traffic awaits a train's passage, idling trucks can create annoying noise and also increase air pollution in the area.

Other impacts that affect local communities include traffic congestion and bright or spillover lighting where transfer facilities are located near residential areas. Over time, the lengthening durations of nighttime work has increased, which increases annoyance and concern among residents of affected communities.

Negative impacts on communities from goods movement are also the result of land use decisions. Residential areas are often in close proximity to truck and rail corridors as well as highly industrialized ports and high-activity warehousing and distribution centers. Property prices adjacent to ports and goods movement corridors are generally discounted due to their location. This has increased the conflict between residential and industrial land uses because (a) goods movement facilities have expanded thus encroaching into residential neighborhoods, and (b) residential development due to population growth (and a need for affordable housing) has expanded thus encroaching onto goods movement facilities. Buffer zones are being squeezed out of existence thereby resulting in land use incompatibilities.

To begin to address these issues, Metro, Riverside County Transportation Commission, San Bernardino Associated Governments, and Ventura County Transportation Commission recently received a Caltrans grant to conduct the Environmental Justice Analysis and Outreach project. The purpose of this effort is to develop a guidebook that contains strategies and best practices that can be used by local jurisdictions and businesses to mitigate the community and environmental impacts of goods movement. In addition, the guidebook will contain one case study per county that will analyze and recommend strategies to reduce the impacts of goods movement.

## RAIL AND TRUCK VOLUMES AND RELATED IMPACTS

Increasing rail and truck volume on the county's rail and roadway network will result in increased delay and congestion. Related to this volume are delay and safety impacts at at-grade rail crossings and safety and pavement deterioration impacts from truck travel.

### Rail Volumes and Related Impacts

Mainlines east of Los Angeles are reaching capacity with a resulting delay of over 30 minutes in an average train trip between Los Angeles and Colton. BNSF Transcon is 95 percent double tracked between Los Angeles and Chicago giving BNSF a clear advantage over UP in line-haul capacity and speed. BNSF has stated that Transcon will be at capacity by 2010 between Commerce and Fullerton if a third track is not constructed.

Metrolink operates commuter service from Riverside to Los Angeles on the UP LA Subvision Line. UP could shift many freight trains now operating to Riverside on the LA Sub Line over to the Alhambra Line at Pomona. These changes would create a freight-only route and a mixed freight/passenger route resulting in increased operational efficiency for UP. None of these changes is currently funded and the reroute of Metrolink trains will require a new agreement with the commuter train agency.<sup>13</sup>

Significant freight rail capacity issues have emerged in recent years along the Union Pacific, Alhambra, Los Angeles subdivision and the BNSF Transcon Lines. Figure 18 shows the increase in rail volumes by the year 2025. Absent additional track capacity, the mainline rail system could experience delays of over 3 hours per train by 2010 (Table 8). Increasing freight volumes can also impact passenger service by increasing delay and reducing capacity for future growth. In addition, the growing number of freight trains will increase passenger vehicle delay and emissions at-grade road/rail crossings. For example, a recent trucking/goods movement survey administered to the South Bay Cities identified 19 locations where rail crossings caused significant motorist delay.<sup>14</sup> Furthermore, between 2002 and 2006 15 collisions at at-grade road/rail crossings occurred in this subregion. Almost all of the incidents involved vehicles ignoring warnings and entering the crossing.

**Table 8**  
**Freight train delay on the UP and BNSF mainline freight network (existing tracks with no improvements)**

	Average Delay Per Train (minutes)	
	Year 2000 baseline	2010 Freight/2000 Passenger
BNSF Freight	31.9	206.3
UP Freight	30.4	196.9

Source: LA-Inland Empire Railroad Mainline Advanced Planning Study, 2002

The Alameda Corridor, one of the more notable goods movement projects in Los Angeles County, was developed specifically to address many of these issues. It consolidates harbor-related rail traffic from four separate branch lines into a 20-mile, fully grade-separated route. The corridor connects the POLA and POLB to the transcontinental rail line near downtown Los Angeles and eliminates traffic conflicts at 200 at-grade crossings, thereby reducing accidents, improving the safety of the traveling public, and reducing emissions and congestion.

Based on the demonstrated benefits of the Alameda Corridor, the Alameda Corridor-East Construction Authority, the Gateway Council of Governments, and the South Bay Council of Governments have identified a series of grade crossings that need to be improved or grade-separated. The federal Safe, Accountable, Flexible and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) earmarked \$167.64 million to the Alameda Corridor-East, which will be split among Los Angeles, Orange, Riverside, and San Bernardino counties. An additional \$42.88 million was earmarked for individual grade separations east of downtown Los Angeles.





-  Airports
  -  Ports
  -  Urban Areas
  -  Other Railroad
- | Trains per Day  |           |
|---|-----------|
|  | 27 - 49   |
|  | 50 - 81   |
|  | 82 - 130  |
|  | 131 - 162 |
|  | 163 - 255 |

# Multi-County Goods Movement Action Plan

## 2025 Forecast Rail Volume







**WilburSmith**  
ASSOCIATES

ENGINEERS  
PLANNERS  
ECONOMISTS

Sources:  
StreetMap 2006  
WSA 2006

Figure 18

However, with the cost of the Alameda Corridor-East program alone estimated at over \$4.4 billion (Los Angeles County portion estimated at \$1.9 billion), these funds are not sufficient to implement the entire series of needed grade separations. As a result, local governments have sought other local sources of funds for the unfunded amount. With the expectation that rail freight traffic will increase, communities along the mainlines will continue to face environmental, safety, and congestion impacts as long as the necessary funding levels are not met.

Simulation studies show the significant impact of vehicle delay at highway-railroad grade crossings along the mainline infrastructure from downtown Los Angeles east and north to Barstow and Indio. The simulated value of total vehicle hours of delay in year 2000 was calculated to be 2,622 hours per peak day.<sup>15</sup> Extrapolating this to an annual value, assuming 300 peak days per year, potentially yields nearly 790,000 vehicle hours of delay at these crossings. As the railroads within the MCGMAP region move towards longer trains (8,000 ft.), the extent of grade crossing delays could increase. Moreover, delay at grade crossings result in environmental impacts (e.g., increased emissions from idling vehicles). A 2005 study by Leachman and Associates established baseline emissions conditions from simulation models, including traffic delay emissions at grade crossings.<sup>16</sup>

### Truck Volume and Related Impacts

As stated earlier, Los Angeles County plays a critical role in the movement of goods. As total volumes increase, the share of truck volumes along major corridors will also increase. Increased freight flows have had significant impacts on metropolitan areas. Traffic at major freight generators (ports, airports, rail yards, warehouse/distribution nodes) has greatly increased, adding to congestion and impacting surrounding neighborhoods. About 40 percent of the congestion is estimated to be caused by bottlenecks and recurring congestion at locations where the volume of traffic routinely exceeds the capacity of the roadway, resulting in stop-and-go traffic flow and long backups. The balance, about 60 percent of delay, is estimated to be caused by non-recurring congestion such as construction work zones, accidents (crashes), incidents (breakdowns, spills), extreme weather conditions, and suboptimal traffic control devices or measures.

There are four major types of bottlenecks: interchange, steep-grade, signalized-intersection, and lane-drop bottlenecks. For example, interchange bottlenecks account for the most truck hours of delay, estimated at about 124 million hours annually in 2004.<sup>17</sup> The Transportation Research Board (TRB) and the Federal Highway Administration (FHWA) estimate a delay cost of \$32.15 per hour, and most of these costs are passed along to shippers and consumers.

Table 9 shows the growth in daily truck volumes on major freeways from 2003 through 2030 derived from model runs.

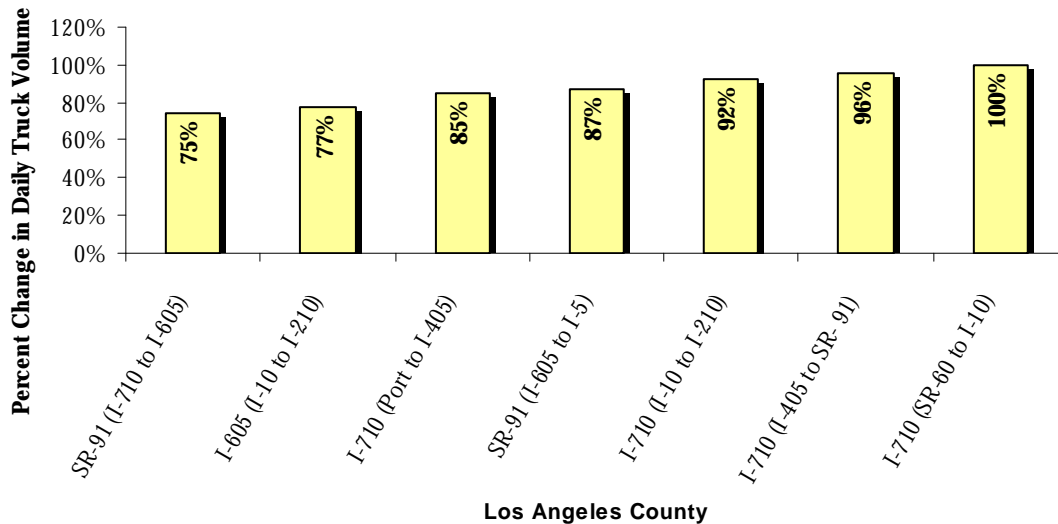
**Table 9**  
**Truck Volumes Derived from Model Runs (2003-2030)**

Route	Segments	City	SCAG Model 2003 Truck Volume	SCAG Model 2030 Truck Volume	Percent Change in Daily Truck Volume
I-605	SR-91 to I-105	Los Angeles	20,969	28,798	37%
I-605	I-405 to SR-91	Los Angeles	11,945	16,638	39%
I-605	I-105 to I-5	Los Angeles	24,521	37,506	53%
I-605	I-5 to SR-60	Los Angeles	25,925	41,975	62%
I-605	SR-60 to I-10	Los Angeles	20,414	34,397	68%
I-605	I-10 to I-210	Los Angeles	13,933	24,667	77%
I-710	I-105 to I-5	Los Angeles	22,323	33,381	50%
I-710	I-5 to SR-60	Los Angeles	12,403	19,590	58%
I-710	SR-91 to I-105	Los Angeles	29,634	51,145	73%
I-710	Port to I-405	Los Angeles	25,173	46,543	85%
I-710	I-10 to I-210	Los Angeles	8,022	15,404	92%
I-710	I-405 to SR-91	Los Angeles	34,564	67,599	96%
I-710	SR-60 to I-10	Los Angeles	8,344	16,697	100%
SR-134	I-101 to I-5	Los Angeles	12,028	18,255	52%
SR-134	I-5 to I-210	Los Angeles	11,544	18,366	59%
SR-170	I-5 to SR-134	Los Angeles	14,485	22,007	52%
SR-57	I-10 to I-210	Los Angeles	11,733	18,447	57%
SR-57	SR-60 to I-10	Los Angeles	8,914	14,091	58%
SR-60	I-10 to I-710	Los Angeles	17,321	21,294	23%
SR-60	I-710 to I-605	Los Angeles	18,907	25,209	33%
SR-60	I-605 to SR-57	Los Angeles	19,415	26,174	35%
SR-91	I-10 to I-710	Los Angeles	14,774	21,574	46%
SR-91	I-710 to I-605	Los Angeles	23,017	40,189	75%
SR-91	I-605 to I-5	Los Angeles	20,162	37,788	87%

Source: SCAG 2007 Draft AQMP Baseline model, SCAG, April 2006.

Freeways including I-710, I-605, and SR-91 will continue to carry the highest percentages of truck volume. Figure 19 shows truck growth from 2003 to 2030 in Los Angeles at 75 percent.

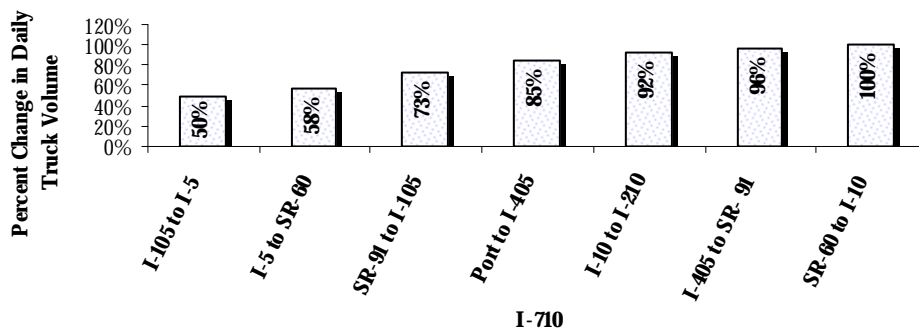
Figure 19  
Truck Growth 2003-2030  
(Greater than 75%)



Source: SCAG 2007 Draft AQMP Baseline model, SCAG, April, 2006.

I-710 shows an increase of 50 percent in daily truck volumes from I-105 to I-10 by 2030 as shown in Figure 20.

Figure 20  
Truck Growth on I-710 (2003-2030)



Source: SCAG 2030 Draft AQMP Baseline model, SCAG, April, 2006.

The subregions most affected by freeway capacity issues are the same as those affected by rail capacity issues. The Gateway cities, City of Los Angeles, San Gabriel Valley and South Bay cities' subregions have roads that carry increased volumes of truck traffic. Arroyo Verdugo and North Los Angeles County are impacted at a less significant level. The only freeway with major truck volumes that extends through the three subregions is the I-5.

Beyond the impacts associated with truck related congestion, other issues related to truck travel include roadway deterioration, accidents, and safety concerns. These issues are under the purview of the California Department of Transportation (Caltrans) in their role as owner and operator of the state highway system.

Pavement deterioration caused by heavy trucks is a major issue, given that a disproportionate amount of roadway damage is directly related to truck traffic.<sup>18</sup> According to the American Association of State Highway and Transportation Officials (AASHTO), the maintenance cost impact related to axle weight increases at a gradual rate up to 10,000 pounds and rapidly increases above 16,000 pounds. It also concluded that pavement damage increases exponentially as axle weight increases, and that the passage of an 80,000 pound, five-axle tractor-trailer has about the same impact on highway deterioration as that of 9,600 automobiles. For local cities and subregional governments faced with increased volumes of truck traffic, this is a key concern. In a 2007 survey, the South Bay cities were asked to rate the severity among various truck-related issues. The result of the survey ranked truck-related street deterioration as the most severe issue facing the subregion. Congestion, pollution and noise were all ranked second in severity; with a surveyed severity ranking approximately 26 percent lower than street deterioration.

Another contributing factor to roadway congestion is inadequate highway maintenance. The larger and older the system becomes, the more expensive it is to maintain and operate. The average urban motorist in the U.S. pays \$400 annually in additional vehicle operating costs as a result of driving on roads in need of repair. Poor road maintenance contributes to accelerated vehicle deterioration, increased frequency of needed maintenance, and increased fuel consumption.<sup>19</sup> However, trucks and cars each pay about 80 percent to 90 percent of their total road costs.<sup>20</sup>

Accidents involving trucks are another major concern, since these types of accidents result in a higher probability of damage to the passenger vehicle and injury to its occupants. Of all accidents involving large trucks, 84 percent of fatalities are passengers in vehicles other than the truck.<sup>21</sup> Accidents involving trucks have a higher degree of severity due to the great differential in size and mass between trucks and cars. This generally places the occupants of the passenger vehicle at a great disadvantage in such collisions.<sup>22</sup> In the same study of all large truck collision incidents, 50.7 percent of these events were caused by the driver of the passenger vehicle. Many cities in the county have identified motorist safety as a critical issue that must be addressed. This trend can be seen in the South Bay cities subregion, where 76 percent of reported truck related collisions from 2003 to 2005 were on city or county roads, with only 24 percent occurring on state highways.

Safety on roadways, as it relates to truck traffic, is a factor of the truck volumes and total congestion on the roadway system. The propensity for truck-involved accidents is found to be a decreasing function of the number of lanes and the average annual daily traffic (AADT) per lane, and an increasing function of truck percentages of AADT, all factored by the effects of time of day, day of week, and weather conditions.<sup>23</sup> In Southern California, the data for truck accidents in the study area correlates with overall truck travel volumes in the study area by county. In 2003, the highest number of fatalities and injuries involving truck accidents occurred in Los Angeles, Riverside, and San Bernardino Counties, which account for the majority of truck travel volumes in the study area.

Furthermore, "large trucks can intimidate motorists traveling in passenger vehicles. It is not unusual for relatively small passenger vehicles to be boxed in by trucks in front, behind, and alongside them. If all vehicles in the general-traffic lanes were roughly the same size, there would be less stress on those motorists who are nervous about sharing the road with large trucks."<sup>24</sup>

Road capacity and mobility is an issue for every subregion in the county. Improvements to one freeway affect the efficiency and congestion of others. The ability to accommodate trucks on antiquated facilities designed for smaller, lighter trucks, as well as lower truck volumes is also a county-wide issue, affecting both truck related congestion and motorist safety. It is important to note that many old existing highways such as I-710 have non-standard features which contribute to truck congestion and safety concerns. A summary of other types of deficiencies is provided below:<sup>25</sup>

- ◆ **Non-Standard Weaving Distances:** Weaving distance is typically determined based on the number of vehicles entering or exiting a weaving section as well as the speed of the weaving section. Operational performance (e.g., acceleration and braking) and vehicle size can affect required weaving distances, and trucks require substantially more weaving distance than automobiles.
- ◆ **Narrow/Non-Existent Shoulders:** Throughout much of the study area the shoulders are narrow or non-standard widths (<10 feet). In some segments no shoulders are provided.
- ◆ **Narrow Lane Widths:** Narrow lanes (<12 foot lanes) tend to reduce the motorists' comfort level and speed, thus reducing overall capacity, especially when trucks are present.
- ◆ **Median Barriers:** Most of the median barriers on old freeways are metal beam barriers that are no longer in use and less effective in preventing trucks from crossing onto opposing traffic lanes.

## PORT/INTERMODAL YARD CAPACITY

Analysis estimates actual throughput capacity of the ports of Los Angeles and Long Beach to be between 28 and 30 million TEUs, far below projected demand of 42.5 million TEUs by 2030. This is nearly double the 2006 volume of 15.7 million TEUs. Additionally, this estimate assumes no new landfill will be added and also assumes that minimal development of vacant land will occur in addition to minor terminal redevelopment, 24/7 operations, increased container stacking, increased stack heights, reduced container dwell time, upgraded information systems, and enhanced on-dock rail operations. Therefore, the ports could face capacity constraints if container volumes reach the projected 2030 levels.

As described previously, on-dock and off-dock rail intermodal facilities allow for the transfer of intermodal containers between rail and truck and play an essential role in transporting containers via rail, which in turn reduces truck trips out of the ports. However, as port volume continues to increase, the intermodal facilities will face significant capacity constraints.

Based on acreage and volume data for various intermodal terminals in the Los Angeles County, the estimated capacities of intermodal facilities in the county are: City of Industry (255,000 lifts per

year capacity), City of Commerce (500,000 lifts per year capacity), the Intermodal Container Transfer Facility (ICTF) near the ports (800,000 lifts per year capacity), and the Los Angeles Transportation Center (LATC) in Los Angeles (250,000 lifts per year capacity).

The Ports forecast that direct intermodal demand will be about 17 million TEUs in 2030 assuming total port volume reaches 42.5 million TEUs. It is estimated that between 40-87 percent (6.7-14.8 million TEUs) of intermodal demand could be handled by both on-dock and off/near-dock facilities, depending on the ports' ability to implement rail projects proposed and approved by the ports and the application of modified operating practices and additional labor shifts. Note that if all of the projects and strategies in the San Pedro Bay Ports Rail Study Update are implemented, there would still be a 13 percent (2.2 million TEUs) capacity shortfall that would require the ports to examine other potential projects to meet this demand. Under a no-build scenario in which existing rail yard conditions are maintained, the capacity shortfall would be 10.25 million TEUs or about 60 percent of demand<sup>26</sup>. Any intermodal demand that cannot be met due to capacity shortfalls would result in additional truck trips and mobility impacts to the region's roadway network. Therefore, addressing intermodal demand will be essential.

### AIR CARGO CAPACITY

As stated earlier, Los Angeles County has three commercial airports with air cargo service- Los Angeles International (LAX), Burbank (BUR) and Long Beach (LGB). Table 10 highlights the projected 2030 air cargo demand at the County's three airports.

**Table 10**  
**Projected 2030 Air Cargo Demand in Los Angeles County**

Airport	Air Cargo (tons) 2005	Air Cargo (tons) 2030	Percent Growth 2005-2030
Los Angeles International (LAX)	2,137,188	2,340,000	9.5%
Bob Hope (BUR)	52,867	87,000	64.5%
Long Beach (LGB)	54,298	137,000	152%
Total Los Angeles County	2,244,353	2,564,000	14.2%

Source: SCAG Regional Aviation Activity Report 2003-2005; SCAG 2004 Regional Transportation Plan

Delays during peak periods continue to mount at LAX, due to a shortage of ramp space, on-airport warehouse space, and peak-period lift capacity. A lack of warehouse and terminal capacity often results in congestion and delays at existing cargo terminals. Specifically, this affects joint-use facilities operated by a third party, as opposed to individual cargo terminals controlled by a single carrier.

Impacts to air cargo will be primarily in Los Angeles and South Bay cities due to the proximity of LAX. Congestion and noise due to LAX generated truck traffic will be felt most in these areas. The two freeways adjacent to LAX, I-105 and I-405 handle the most truck trips generated by LAX. Arroyo Verdugo and Los Angeles would be impacted by changes to nearby Bob Hope airport. Long Beach Airport generated truck traffic would also impact South Bay cities.

One potential air cargo location is Palmdale Regional Airport (PMD) located in the Antelope Valley near the northeast portion of the city of Palmdale. The airport is owned and operated by LAWA under a joint-use agreement with the U.S. Air Force. The airport has three runways and features a modern 9,000 SF terminal capable of handling 300,000 passengers annually. PMD has no commercial service at this time and no reported cargo activity.

## **ECONOMIC GROWTH**

Despite the economic costs associated with environmental and community impacts, the goods movement industry serves as an economic engine for the county, MCGMAP study region, and the state by providing numerous jobs and tax revenue. For example, logistics jobs (wholesale trade; trucking; supply chain management; warehousing; couriers; air, sea, and rail transportation) provide positive economic benefits for the county. The logistics industry has the ability to replace manufacturing as it provides good entry-level pay and job ladders for people who have not attended a single college class. In wholesale sub-sectors, 80.6 percent of the jobs require no advanced schooling and another 5.7 percent require either trade or community college training. In transportation and warehousing sub-sectors, 92.9 percent of the jobs require no advanced schooling and another 1.1 percent requires trade school training. Furthermore, these jobs pay well - logistics jobs in 2005 on average paid \$47,411 per year, just 2 percent below all manufacturing jobs (\$48,397). Logistics activity accounted for 687,837 jobs in Southern California, which translates into about 6.1 percent of all of the jobs in the region.

The projected growth in freight traffic poses a major concern due to limited transportation funding and high infrastructure improvement costs. Population and employment forecasts, as well as projections for increased international and domestic trade volumes all lead to worsening congestion and potential gridlock. Chronic congestion remains a drain on the region's economy. Critical bottlenecks, additional track extensions, centralized traffic control, storage tracks and other yard improvements in the port area also need to be addressed.

As the nation's leading manufacturer center and home to the nation's number one and two ports in TEU volume, Los Angeles County must maintain and enhance the economic vitality associated with goods movement. To maintain the economic vitality of the goods movement industry, the region needs to provide a competitive advantage in terms of speed and reliability of moving goods to U.S. markets while mitigating environmental impacts. The projects recommended in the LA GMAP (and MCGMAP) are ultimately designed to ensure that Southern California strengthens its economic position, while simultaneously and continuously mitigating environmental and community impacts associated with goods movement. However, one of the major challenges for stakeholders within this county, region, and state is to develop ways to translate portions of the economic benefits derived from goods movement activities into funding for requisite infrastructure improvements and environmental mitigation measures.

## **FUNDING LIMITATIONS**

As outlined in the MCGMAP regional goods movement projects/strategies list, over \$50 billion in mitigation and infrastructure projects is needed throughout the six county study region and beyond,

while only about \$2.4 billion of that is currently committed. As described later in this chapter, Los Angeles County goods movement project needs are over \$23 billion. Clearly, funding limitations represent a key challenge to the county and region.

Fortunately, a portion of this shortfall will be addressed through the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 (Proposition 1B), approved by voters on November 7, 2006, which provides for \$19.925 billion in General Obligation bond funds to fund transportation investments statewide. Of this total, \$3.1 billion will be set aside in a Ports Infrastructure, Security, and Air Quality Improvement Account to fund goods movement-related infrastructure, emission reductions strategies, and homeland security improvements:

- ◆ The California Transportation Commission (CTC), approved \$1.65 billion of the \$3 billion that was earmarked and made available for improvements along trade corridors of national significance to Southern California.
- ◆ An additional \$1 billion will be allocated by the California Air Resources Board (CARB) for emission reductions from activities related to goods movement.
- ◆ \$100 million will be allocated to ports for security improvements.

Other components of the infrastructure bond program could potentially fund goods movement-related projects that involve congestion mitigation, intercity passenger rail, and highway-railroad crossing safety.

In addition to TCIF funds, Metro has recommended funding over \$100 million for goods movement projects in Los Angeles County between 2007 and 2012 through the 2007 Call for Projects. Those projects include:

- ◆ Washington Blvd. widening and reconstruction
- ◆ Bellflower Blvd. at Imperial Highway improvements
- ◆ Paramount Blvd. at Firestone Blvd. improvements
- ◆ I-110 freeway/C street interchange improvement
- ◆ Nogales Street (LA subdivision) grade separation project
- ◆ Gerald Desmond Bridge replacement
- ◆ South Wilmington grade separation
- ◆ Olympic Blvd. and Mateo street improvement
- ◆ I-110/SR-47 and John S. Gibson/NB I-110 ramp access
- ◆ Harbor Blvd. signalized intersection improvements – Swinford to 6<sup>th</sup>
- ◆ Highway-rail grade crossing improvement system

While existing sources of funding, including TCIF and Call for Projects funds, will improve the county's goods movement system, they provide only a small percentage of the region's total need. As a result, developing an equitable public/private funding strategy will be essential.

User fees offer a potential source of new funding. For example, the Ports of Los Angeles and Long Beach have adopted a Clean Truck Fee of \$35 per TEU to help pay for the replacement or retrofit of almost 17,000 drayage trucks serving the ports by 2012. This fee will be charged to cargo owners and apply to all loaded containers entering or leaving the ports by truck. The Ports expect

that the fee would generate about \$1.6 billion of the \$2 billion needed to upgrade drayage trucks to the 2007 standard established in the Ports' Clean Air Action Plan. Also in January 2008, the Board of Harbor Commissioners for the Ports of Long Beach and Los Angeles approved a motion to implement an Infrastructure Cargo Fee of \$15 per loaded TEU. This fee will be used to fund highway and rail improvements (including grade separations) in the vicinity of the ports.

In the 2007 legislative session, Senator Lowenthal introduced a container fee bill (SB 974) that would impose a \$30 per TEU fee on containers imported and exported through the Ports of Los Angeles, Long Beach, and Oakland. Funding generated by this legislation would be split equally between infrastructure projects aimed at congestion relief and environmental mitigation efforts. The bill was held in committee at the request of Senator Lowenthal so that he could work with the governor and other legislators on a revised bill. A container fee bill may move this legislative session (2008).

Another funding concept that could lessen the environmental impact on wildlife and ecosystems caused by goods movement is called mitigation banking. With this concept, an entity whose development impacts a particular environment must decrease impact on another environment. Wetlands are an appropriate example since port facilities are on the coast. Development adjacent to ports that impact wetlands could be mitigated by "banking" wetlands in other areas.

This strategy has its share of problems including the lack of understanding of the complexity of some environments. All wetlands are not equal and therefore the banked location may not truly mitigate the impact of developing the desired wetland. Despite this concern, the concept presents a viable option and deserves attention.

## **SUBREGIONAL GOODS MOVEMENT ISSUES AND PERSPECTIVES**

While the county as a whole is facing a number of important goods movement challenges, the impact on each subregion varies. The following sections provide an overview of issues and perspectives for each subregion.

### **ARROYO VERDUGO SUBREGION**

The Arroyo Verdugo Subregion is not as directly impacted by goods movement issues as subregions like San Gabriel Valley and Gateway Cities. The only infrastructure feature in the subregion that has significant freight movement is I-5. Interstate I-5 is severely congested and is the major north-south freight corridor through the study area. However, lower goods movement volume in this subregion should not lead to the conclusion that there are no impacts, since an individual truck or freight train produces the same congestion and environmental impact regardless of the location.

**CENTRAL LOS ANGELES COUNTY SUBREGION**

Heavy truck traffic, roadway deficiencies, neighborhood intrusion, incompatible land uses and environmental justice issues are just a few of the challenges that the City of Los Angeles Department of Transportation (LADOT) Goods Movement Improvement Program is addressing in this subregion. This multi-year program also identifies the problems with truck movement and access to intermodal facilities, distribution centers, industrial land uses, and freeways and recommends solutions. As a part of this program three studies were conducted throughout communities in the City of Los Angeles that have a high concentration of freight activities underway - (1) "Improving Truck Movement in Urban Industrial Districts", (2) "Improving Truck Movement in Urban Industrial Districts II – Northeast LA and the San Fernando Valley", and (3) "Improving Truck Movement in Urban Industrial Districts III – Hollywood, Mid-City, South LA, West LA, Los Angeles International Airport, and the Port of Los Angeles".

In general, neighborhoods in close proximity to landfills, car dealerships, beverage plants, rock quarries and other truck generators experience the heaviest truck traffic. Lack of enforcement of commercial vehicle operations has resulted in voluntary compliance of truck weight restrictions and use of designated truck routes which further exacerbates the problem. Moreover, it is not uncommon to find industrial uses in the vicinity of sensitive land uses and adjacent to minority communities. LADOT studies also reveal that inadequate roadway widths and curb radii inhibit truck maneuvers; heavy truck traffic and poorly maintained roads contribute to an increase in vehicular accidents; and the lack of grade separations increases the potential for auto, commuter rail and freight rail conflicts at grade crossings.

**GATEWAY CITIES SUBREGION**

The Gateway Cities are in the unique position of housing the Port of Long Beach, which combined with the adjacent Port of Los Angeles comprises the fifth largest container port in the world, as well as a diverse array of communities that are home to two million people directly impacted by the trade and logistics industry. In an effort to address this dual role, the Gateway Cities COG has been at the forefront of goods movement issues and has proactively sought innovative strategies in addressing goods movement impacts. Interstate I-710, the region's most predominant goods movement corridor for trucks and the Alameda Corridor (a project of critical national significance) are located in this subregion.

These southeast Los Angeles County communities have been vociferous about community, environmental, and health impacts of goods movement that have the potential to further denigrate air quality and undermine the quality of life, while at the same time recognizing the need for well-paying jobs to replace the manufacturing base that was once the foundation of the sub-region's economy. As a result, several efforts have been undertaken by the Gateway Cities Council of Government to address these concerns. Transportation planning efforts include, the SR-91/I-605 Needs Assessment Study, the Gateway Cities Clean Air Action Plan and most notably, the I-710 Major Corridor Study. The I-710 Major Corridor Study focused on developing solutions to the traffic congestion, safety and air quality problems along the I-710 corridor. After extensive outreach and successful consensus building, a locally preferred strategy that includes a combination of mix flow

lanes, HOV lanes and a dedicated freight system or truck lanes and use of advanced and/or alternative technologies was selected. The environmental phase of study has begun, as noted earlier in this document.

While the communities in this subregion await completion of the environmental phase of the I-710 study, there remain mixed views on truck lanes. On one hand, there is deep public support for "separating the cars from the trucks;" on the other hand, construction of truck lanes is understood to be costly in both dollars and land use, and new capacity could be overwhelmed by port growth. The subregion's communities therefore strongly support exploring non-highway alignments, utility easements, dedicated freight guideways, and advancing the use of alternative and emerging technologies that minimize noise and emissions and reduce the health related effects associated with goods movement. These sentiments are promulgated in the SR-91/I-605/I-405 Guiding Principles that were adopted by the GCCOG Board of Directors on November 1, 2007. Once funding becomes available, it is expected that this subregion will be one of the first to test the viability of these emerging technologies.

The Gateway Cities COG has also engaged in incremental solutions to ameliorate current conditions. The Truck Impacted Intersections program is making arterial improvements for traffic safety throughout the subregion. More prominently, the Gateway Cities COG pioneered a truck replacement program that has become a national model. With early funding and program development support from EPA, CARB, SCAQMD and the Port of Long Beach, the program today operates with its major financial support from the Port of Los Angeles and is in the process of adapting its operation to meet the goals and objectives of the San Pedro Bay Ports' Clean Air Action Plan. To date, the program has replaced over 500 older diesel trucks with newer, cleaner trucks that must be used in the same vocation within the South Coast Air Basin for at least five years. The older truck engines are physically destroyed so that it cannot be put back into service either here or overseas. The Gateway Cities COG continues to partner with the ports in exploring and encouraging various improvements that could reduce environmental and community impacts in the subregion. Also, having experienced both rail involved collisions and derailments in its communities, the COG is an active advocate for cleaner rail and safer rail including operational improvements as well as arterial grade separations. Finally, the Gateway Cities COG will be facilitating a community workshop and brainstorming session with representatives from the goods movement industry prior to the summer of 2008. The purpose of this workshop is to identify collaborative ways to address goods movement in a manner that will benefit local communities as well as the logistics industry.

### **LAS VIRGENES/MALIBU SUBREGION**

The Las Virgenes/Malibu subregion is not directly influenced by goods movement issues. Freight movement of goods is much less than in most of the study area. The Ventura Freeway (US-101) is the only major transportation feature and it does not carry freight in the quantities of other freeways in the study area. The subregion is north and west of the port and although US-101 provides a route north, most freight going north takes the more direct I-5. The area is also a desirable residential area and real estate prices would preclude such land uses as warehousing.

Lower goods movement volume in this subregion should not lead to the conclusion that there are no impacts, since an individual truck or freight train produces the same congestion and environmental impact irrespective of location. However, the relative magnitude of goods movement impacts is lower in this subregion than in other subregions with higher goods movement volume.

### **NORTH LOS ANGELES COUNTY SUBREGION**

Addressing goods movement issues is not new to the communities in this subregion. In July, 2004 the Metro Board adopted the North County Combined Highway Corridors Study as the plan for transportation improvements in North Los Angeles County. The North County Combined Highway Corridor Study is a consensus document that is supported by the North County Transportation Coalition, the cities of Palmdale, Lancaster and Santa Clarita. The study reveals that the current configurations of I-5, SR-14, and SR-138 inhibit their ability to handle the forecasted travel demand and projected increase in goods movement. The Study also states that substantial long-term corridor investments in the region will be needed to accommodate the projected increase in population, commuter traffic and goods movement. There is currently, a comprehensive review of the truck route system underway in this subregion.

Also, communities in this subregion support efforts to increase moving long distance freight to and from the San Pedro Ports by rail to reduce the number of trucks on the highway. There is general interest in locating an inland port outside of the Los Angeles Metropolitan area and a very strong interest in determining the feasibility of locating an inland port in the Antelope Valley. Available rights of way, accessibility to highways, close proximity to the Los Angeles Palmdale Regional Airport air freight facility, future connectivity to the High Desert Corridor as well as economic opportunities associated with a logistics based industry have been cited as features that could make an inland port in this subregion very attractive.

### **SAN FERNANDO VALLEY SUBREGION**

The San Fernando Valley has historically been a bedroom community for employment in other areas of Los Angeles County. Although this is changing with more job opportunities moving into the area, the industries are not the type that manufacture or store large volumes of freight. The area does not produce or attract large freight volumes so its primary contribution to goods movement would be as a bridge.

The major freight corridor in the subregion is I-5. The subregion is not being envisioned as a potential inland port. The inland ports are in areas with less valuable real estate or with high existing concentrations of warehousing. The potential inland port in north Los Angeles County however would impact this subregion to the extent that freight movement on I-5 is influenced.

Lower goods movement volume in this subregion should not lead to the conclusion that there are no impacts, since an individual truck or freight train produces the same congestion and environmental impact irrespective of location. However, the relative magnitude of goods

movement impacts is lower in this subregion than in other subregions with higher goods movement volume.

### **SAN GABRIEL VALLEY SUBREGION**

Minimizing local community and environmental impacts associated with goods movements is a primary concern in this subregion. The subregion contains some of the most heavily traveled freight corridors including two Union Pacific mainline rail corridors, SR-60 and I-605. Local challenges range from abating noise from freight trains carrying goods throughout the San Gabriel Valley to neighboring counties, to seeking better ways to deliver goods to local markets. Designating specific arterials as truck routes and prohibiting nighttime deliveries are of interest to some of the communities in this subregion. Also, there is general interest in increasing the movement of goods by rail to relieve freeway congestion, if this can be done without impacting local communities and exploring innovative funding sources for goods movement projects and mitigation strategies.

The San Gabriel Valley Council of Governments has been at the forefront of goods movement issues largely due to its role in support of the Alameda Corridor East (ACE) Project. The ACE Construction Authority, acting on behalf of the San Gabriel Valley Council of Governments, oversees the design and construction of the ACE Project. The ACE Project is the largest goods movement project underway in the San Gabriel Valley and is designated as a project of National Significance by the Federal Highway Administration.

The ACE corridor generally parallels the San Bernardino and Pomona Freeways along the Union Pacific rail lines. The ACE Project is intended to mitigate the effect of existing and increased freight traffic while increasing safety, improving mobility and air quality by providing safety upgrades, traffic signal control measures, and 20 grade separations throughout the San Gabriel Valley. The ACE Project is also part of a larger multi-county goods movement transportation corridor known as the Alameda Corridor East Trade Corridor that encompasses Los Angeles, Orange, Riverside and San Bernardino Counties.

Among other goods movement related efforts, the San Gabriel Valley COG has indicated the need for an East-West Corridor Goods Movement Improvement Feasibility Study, designated truck route, various interchange upgrades (I-10/I-605, SR-60/I-605, and SR-57/SR-60) as well as the need for truck climbing lanes on the westbound I-10 to the westbound SR-57.

### **SOUTH BAY CITIES SUBREGION**

The impact of goods movement is of particular concern to the South Bay communities given its close proximity to the ports and LAX, access to freeways and its light industrial uses (warehousing and distribution centers). Pavement deterioration, neighborhood intrusion, noise, truck parking, truck related collisions, pollution, safety, congestion and the treatment of hazardous materials are just a few of the challenges in this subregion. As a result, the South Bay Cities Council of Governments (SBCCOG) and the Southern California Association of Governments (SCAG) commissioned a South Bay Goods Movement Study to assess the impacts of goods movement

and identify solutions that would improve mobility and reduce the environmental and health related effects associated with goods movement. This study provides an analysis of the infrastructure that supports the goods movement industry and describes the major economic forces that drive the demand for this industry within the subregion. The study also identifies freeway improvements (mainline and interchange), major highway improvements, and arterial roadway improvements (intersection improvements, lane drops, pavement rehabilitation and reconstruction) needed to address current and expected future system deficiencies. The study recommends various intermodal improvements and port related projects, and emphasizes the importance of focusing on improvements and mitigation measures that help facilitate trade and minimize impacts on the South Bay communities. The South Bay Goods Movement Study was completed in June, 2007.

Forward thinking by the cities in this subregion has prompted SBCCOG to secure funding from Metro to build upon the macro-level work completed in the SCAG/SBCCOG Goods Movement Study with a more detailed South Bay Goods Movement Feasibility Analysis. The South Bay Goods Movement Feasibility Analysis is intended to provide analyses of specific transportation system impacts and recommend solutions. This study will identify specific chokepoints or deficiencies in the system and include conceptual engineering plans and cost estimates for improving the deficiencies. In addition, this study will include high priority goods movement projects and contain cost/benefit data and an investment strategy for implementing improvements within 5 years. The South Bay Goods Movement Feasibility Analysis is scheduled to be completed in the fall of 2008.

Lastly, at the forefront of discussions in this subregion, is a growing concern about the potential spillover of heavy truck traffic from the I-710 Long Beach Freeway to the I-110 Harbor Freeway. It is expected that the leadership in this subregion will address this concern as well.

### **WEST SIDE CITIES SUBREGION**

Los Angeles World Airport (LAX) is the primary goods movement facility in this subregion. Changes to the airport are of much concern to local residents. Lawsuits against the Los Angeles International Airport (LAX) Master Plan were approved for settlement by the LA City Council in January of 2006. The settlement included provisions to provide funding to Inglewood, Los Angeles County, El Segundo, and ARSAC (Alliance for a Regional Solution to Airport Congest) totaling \$266 million over a 10-year period to include:

- ◆ Accelerated noise mitigation for Inglewood, Los Angeles County, and El Segundo;
- ◆ Job training and increased job opportunities;
- ◆ Traffic mitigation for Inglewood and El Segundo;
- ◆ Street removal and landscaping in the dunes west of Pershing Drive; and
- ◆ Street lighting in Westchester.

An additional commitment of \$60 million will be spent by LAWA on various air quality and environmental justice programs. Under no circumstances will any of LAWA's obligations under the settlement require any expenditure from the city's general fund or any other city-controlled source of funds<sup>27</sup>.

As would be expected from the close proximity of the airport to the South Bay Subregion, this settlement also has influence on the South Bay cities.

The road infrastructure handles limited freight although any increase will impact a system that is totally built out and already severely congested.

## Los Angeles County Actions

Los Angeles County Actions set forth in this section support the recommendations and four actions sets contained in the MCGMAP are

- ◆ Action Set 1: Accelerate Regional Environmental Mitigation,
- ◆ Action Set 2: Relieve Congestion and Increase Mobility,
- ◆ Action Set 3: Improve Operational Efficiency,
- ◆ Action Set 4: Develop Equitable Public/Private Funding Strategy.

Below are brief descriptions of the MCGMAP action sets and specific actions that are recommended for Los Angeles County.

**MCGMAP Action Set 1 - Accelerate Regional Environmental Mitigation** seeks to mitigate environmental impacts through a broad regional approach and project-specific mitigation measures. The regional approach is for broad strategic policies and efforts focusing on further reducing region-wide impacts. The project specific mitigation requires project sponsors to consider and disclose environmental impacts when planning projects and addressing potential impacts to be resolved.

### Los Angeles County Specific Actions:

- ◆ Develop guidelines for local jurisdictions to use in siting and designing goods movement related land uses and transportation facilities. (Environmental Justice Analysis and Outreach Study for the MCGMAP that is underway.)
- ◆ Encourage federal participation in developing guidelines and international agreements that regulate vessels (and other stationary sources of diesel emissions) used for transporting goods to and through U.S. ports.
- ◆ Support clean lease arrangements made by the ports for reducing ship emissions.
- ◆ Initiate a follow-on effort to identify more aggressive goods movement initiatives to achieve regional air quality attainment, including the identification of sources of funding to accelerate the environmental cleanup.
- ◆ Implement highway capacity and operational improvements, and rail grade separations contained in Table 11 of this plan.
- ◆ Accelerate funding and implementation of local air quality plans.
- ◆ Support strengthening of fuel and engine standards for reducing emissions.
- ◆ Use best available technology and practices during construction to reduce related impacts.
- ◆ Comply with natural resource statutes to protect endangered species.

- ◆ Include “smart design” and good planning principles such as landscaped buffering, noise barriers, exterior light shielding and positioning, and compatible land uses and wetlands protection.

**MCGMAP Action Set 2 - Relieve Congestion and Improve Mobility** focuses on increasing intermodal and mainline rail capacity and improving all aspects of the transportation system to increase mobility and improve safety.

Los Angeles County Specific Actions:

- ◆ Complete the Alameda Corridor East (ACE) Trade Corridor railroad grade crossing improvement program in Los Angeles, Orange, Riverside, and San Bernardino Counties.
- ◆ Continue with analysis and planning of I-710 dedicated freight guideway/facility.
- ◆ Further investigate the feasibility of inland port / concentrate inland warehouse and distribution locations.
- ◆ Participate with the railroads in eliminating key bottlenecks and increasing capacity along the mainline rail system as outlined in the Los Angeles-Inland Empire Railroad Mainline Advanced Planning Study.
- ◆ Develop the appropriate institutional arrangements and negotiating framework to provide simultaneous and continuous improvement to mainline track improvements, the Colton Crossing grade separation, highway-rail grade separations, locomotive emission reductions, and other rail corridor related mitigations.
- ◆ Initiate a Regionally Significant Transportation Investment Study (RSTIS) to evaluate the feasibility of implementing a Dedicated Freight Guideway System/Regional Truck Lanes (I-710 from Port of Long Beach to SR-60, East-West Corridor between the I-710 and I-15; and I-15 to Victorville) inclusive of potential non-freeway implementation.
- ◆ Implement rail grade separations, intermodal facilities/yard, mainline rail and highway capacity and operational improvements contained in Table 11 of this plan.

**MCGMAP Action Set 3 - Improve Operational Efficiency** focuses on non-capital projects (i.e., methods and technology) that would increase capacity and productivity of the existing infrastructure.

Los Angeles County Specific Actions:

- ◆ Implement efficiency improvements contained in the San Pedro Bay Ports Master Plans that reduce impacts from trucks and containers on the transportation system and community.
- ◆ Improve terminal productivity, truck turn times, and intermodal operations.
- ◆ Develop partnerships between public and private entities to coordinate work and to research and develop advances in goods movement transportation technologies.
- ◆ Implement rail grade separations, ITS for vehicle management and routing, and highway capacity and operational improvements contained in Table 11 of this plan.

**MCGMAP Action Set 4 - Develop Equitable Public/Private Funding Strategy** will require a coordinated effort between the private and public sectors (including local, state, and federal governments). This coordinated effort will provide the increased funding that is needed to keep pace with the anticipated freight demand and role of our regional system in support of the national economy.

#### Los Angeles County Specific Actions:

- ◆ Maximize Southern California's fair-share of state and federal funds through ongoing and coordinated legislative efforts.
- ◆ Provide input to legislation focused on user fees and to any ongoing efforts to negotiate user fees with industry that can be included in a specific plan of finance for goods movement and air quality improvements.
- ◆ Pursue public-private funding arrangements for specific facilities, where appropriate.
- ◆ Implement the Cooperation Agreement among regional, state, and federal agencies to facilitate the actions contained in the MCGMAP.
- ◆ Develop structure for managing user fees and revenue.
- ◆ Provide incentives for private sector contributions (e.g., enhanced reliability, streamlined approval processes).

#### Los Angeles County Project List

Table 11 (included at the end of this chapter) contains a draft list of infrastructure improvements/strategies and mitigation measures. The draft list is comprised of rail grade separations, on dock rail improvements, intermodal facilities, maritime, inland port, mainline rail, truck lanes, and dedicated facilities, ITS for vehicle management and routing, highway capacity and operation improvements, local arterial improvements and other operational strategies to implement the MCGMAP action sets and the specific Los Angeles County actions described in the previous section. These improvements will address goods movement challenges and complement the vision and potential future system (described in the MCGMAP). However, extensive outreach, consensus building and feasibility studies will be required before advancing a number of the improvements identified in Table 11.

The projects and strategies contained in Table 11 are grouped into three categories: regional, county, or identified needs. With the exception of the identified needs, the regional and county categories of projects and strategies can be found in the MCGMAP. As described above (and in the MCGMAP), many of these regional and county projects can be implemented in short-term while others require additional planning and project development. As a result, cost estimates for some of the projects and strategies have yet to be determined. The regional and county categories of projects are considered essential and neither category should be viewed as taking precedence over the other. For example, the regional category of projects and strategies represent short-term to long-term strategies. These strategies focus on region-wide projects that provide environmental mitigation and/or ground access (rail, highway, and intermodal) improvements to and from the international gateways and the multi-county goods movement distribution centers and corridors (existing and proposed) within the Southern California region. The county category of projects and

strategies include improvements that connect regional goods movement corridors, distribution centers, and the existing statewide goods movement system as identified by Caltrans. Also, the projects and strategies contained in Table 11 are intended to (1) support the regional projects; (2) mitigate environmental and/or community impacts in a shorter horizon; (3) correct short-term system deficiencies; (4) precede or be implemented in conjunction with the regional projects based on local needs and project readiness; and (5) fill gaps in the existing and future goods movement infrastructure. Table 11 also contains improvements to address short/long-term needs or deficiencies that have been identified by local jurisdictions throughout Los Angeles County. These improvements are also in various planning and project development phases.

Further, a comprehensive list of unconstrained goods movement infrastructure improvements contained in planning documents for SCAG and Los Angeles, Orange, Riverside, San Bernardino, Ventura, and Imperial Counties can be found on Table 7 in Appendix B.

## **Next Steps**

As referenced in the MCGMAP, stakeholders will continue to play an integral role in framing goods movement issues and defining priorities for Los Angeles County. Emphasis will be placed on proactive measures to raise state and federal awareness of the challenges due to goods movement and Southern California's preeminent role in the U.S. and international trade. The project partners will focus on maintaining dialogue and partnerships, advancing low to zero-emission technologies in the goods movement industry, expanding outreach efforts to the private sector and all levels of government, mitigating impacts and securing funding to implement the actions, projects, and strategies contained in the LA GMAP and subsequent plans. Also, based on feedback from stakeholders throughout the development of the MCGMAP, Metro and its project partners are committed to taking the following next steps that are consistent with the MCGMAP:

### **Partnership and Advocacy**

- ◆ Implement the intent of the Southern California National Freight Gateway (SCNFG) Cooperation Agreement among federal, state, regional, and other implementing agencies to maintain dialogue to address the challenges outlined in MCGMAP.
- ◆ Request the incorporation of MCGMAP strategies and actions into other state, regional, and local plans.
- ◆ Continue to convene multi-county meetings to monitor the progress on the Action Plan and provide annual reports to the CEOs and to the boards of the partner agencies.
- ◆ Support and propose legislation that (1) provides funding mechanisms for goods movement projects/strategies including environmental improvements and (2) improves mobility and facilitates regional multi-county goods movement goals without undermining local community priorities and quality of life.

- ◆ Support groups such as Mobility 21 and the Coalition for America's Gateways and Trade Corridors in developing dedicated federal and state goods movement funding sources.
- ◆ Continue to work closely with all stakeholders including the Councils of Governments, community groups, environmental regulatory agencies and academia.
- ◆ Seek goods movement and logistics industry involvement throughout planning and project development phases to generate and vet solutions.

### **Environmental and Community Impacts**

- ◆ Through the SCNFG Cooperation Agreement and other related activities, develop a specific set of feasible actions to accelerate implementation of the strategies contained in the various air quality and emission reduction plans that are within the scope of responsibility of the project partners.
- ◆ In partnership with CARB, air districts, the logistics industry, and local governments, initiate an activity to generate public and/or private funds to accelerate implementation of air quality improvement strategies being undertaken by these and other entities. Examples may include: container fees that provide a revenue stream to fund emissions reduction projects, impact fees paid by entities contributing to the goods movement-related air quality problem, supplemental transportation infrastructure project mitigation (to add to an air quality funding pool), mitigation banking, market-based strategies, and other vehicle-based fees commensurate with the impacts attributed to those vehicles.
- ◆ Continue work on the Environmental Justice Analysis and Outreach Study for the MCGMAP. This effort will develop a guidebook for local jurisdictions and the private sector to use in avoiding, minimizing, and mitigating the effects of goods movement infrastructure and to assist local jurisdictions in making informed land use decisions. It is scheduled to be completed in the winter of 2009.
- ◆ Seek new technology/low-emission solutions to goods movement issues through pilot implementations.

### **Mobility**

- ◆ Initiate a study to investigate the linkage between industry supply chain trends and port and trade related transportation patterns and movements, to better understand the relationship of secondary and tertiary truck trips.
- ◆ Continue project development efforts, including planning, design, funding, and implementation, of the regional and county-specific projects listed in the Action Plan, including the mitigation of the impacts of those projects.
- ◆ Based on preliminary analysis conducted as part of the MCGMAP, initiate a Regionally Significant Transportation Investment Study (RSTIS) to evaluate the feasibility of implementing

a Dedicated Freight Guideway System/Regional Truck Lanes (I-710 from Port of Long Beach to SR-60, East-West Corridor bounded by the I-210 to the north and SR-91 to the south inclusive of the I-10 and SR-60 between the I-710 and I-15, and I-15 from SR-60 to Victorville) inclusive of potential non-freeway implementation.

- ◆ Initiate the Goods Movement Strategic Plan for Los Angeles County and other localized studies, as appropriate, to assess the impacts of goods movement and identify solutions by conducting project-level analyses that include, but are not limited to, the following:
  - Alternative freight movement technologies
  - Alternative alignments (highway or non-highway) for dedicated freight guideways/truck lanes, particularly along multiple east-west corridors.
  - Unconstrained rail capacity scenarios and the impact on the highway system performance.
  - Truck impacts and/or improvements on county freeways and major arterials.
  - Requisite community participation programs for affected stakeholders.
  - Potential safety hazards (e.g., auto-train conflicts, passenger –freight rail conflicts, derailments, etc.).
  - Potential health risks and economic costs associated with goods movement, and localized community impacts (e.g., congestion, noise, air quality, safety, right of way acquisitions, local economic or sales tax effects, incompatible land uses, etc.).
  - Feasibility of clustering development of new transloading and warehousing facilities adjacent to inland ports remote from residential and sensitive land uses.
  - Feasibility of inland ports and/or agile ports.
  - Secondary and tertiary truck trip generation and travel patterns.
  - Reverse flow (empty containers).

## Funding

- ◆ Pursue new avenues of goods movement funding for projects, including the region's fair share of funding, other state appropriations, federal funds and reauthorizations, and private sector contributions consistent with the impacts of the benefits that are derived from using the region's premier goods movement system. (check ES)
- ◆ Continue fair share and user fee discussions with private sector stakeholders to seek their support in addressing goods movement impacts and filling funding gaps.
- ◆ Develop a clear and concise message on the costs and benefits of goods movement to effectively communicate to the public, policy, and funding decision makers at all levels of government.
- ◆ Establish structures to manage user fees and revenue that are acceptable to both public and private sector stakeholders.

**Table 11**  
**Los Angeles County Goods Movement Projects & Identified Needs**

Project Type	Project Description	Cost <sup>1</sup> (Millions)	Category
Mitigation	Mitigation of regional and project specific impacts of goods movement infrastructure projects	TBD	Regional
	Environmental Mitigation Projects (San Pedro Bay Clean Air Action Plan)	\$2,067	Regional
	Other Goods Movement Emission Reduction Plans and Identified Needs	TBD	Regional
Rail Grade Separations	Alameda Corridor East Trade Corridor Plan grade separations and grade crossing improvements (LA)	\$1,891	Regional
	Brazil Street and San Fernando Road Railroad Crossing	\$2	Identified Need
	Gateway Cities COG Rail Grade Separations (BNSF Mainline Grade Separations)	\$196	Regional
	South Wilmington grade separation (included as part of I-110 Connector Improvement Program)	Cost included in I-110 Connectors Program	County
	Valley View Ave. grade separation in City of Santa Fe Springs	\$79	County
	Nogales Street (LA Subdivision) grade separation project	\$29	County
On-Dock Rail Improvements	San Pedro Bay Ports Rail systems (Port area rail enhancements / improvements)	\$631	Regional
Intermodal Facilities / Yards	Construct BNSF "Southern California International Gateway" Near Dock Facility <sup>2</sup>	\$300	Regional
	Modernization of UP Near Dock Intermodal Container Transfer Facility (ICTF) <sup>2</sup>	\$300	Regional
Maritime	Shuttle Train Intermodal Service to Inland Empire; Inland Terminal.	\$60	County
Inland Port	Further Investigation of Inland Port Strategy	TBD	Regional
Mainline Rail	Evaluation of Alternative Rail Technologies	\$5	
	Rail capacity improvements (e.g., double and triple tracking; Colton Crossing) <sup>3</sup>	\$2,200.0	Regional

**Table 11**  
**Los Angeles County Goods Movement Projects & Identified Needs**

Project Type	Project Description	Cost <sup>1</sup> (Millions)	Category
	Relief Siding (2 projects) and upgrade sidings (1 project) on the Antelope Valley Line	\$15	County
Modification of Port Operations	Expand labor force at the ports	TBD	Identified Need
	Establish port-wide terminal appointment systems for truckers	TBD	Identified Need
	Continue PierPass Program at San Pedro Bay ports and eventually extend to 24-hour operations when warranted.	TBD	Identified Need
	Develop chassis pools	TBD	Identified Need
	Implement incentives to limit container dwell time	TBD	Identified Need
	Improve communications (including electronic data interchange) and planning among terminals, steamship lines and railroads to increase efficiency of on-dock rail movements.	TBD	Identified Need
Truck Lanes / Dedicated Freight Facilities	I-5 Truck Lanes, Southbound from Pico Canyon Rd/Lyons Avenue to Weldon Canyon Road and Northbound From Weldon Canyon Road to Calgrove	\$148	Regional
	I-5 Truck Lanes, Southbound from Parker Road to Pico Canyon Road and northbound from Calgrove to Parker Road	\$244	Regional
	I-5 from Parker Road to Kern County line truck lanes	\$416	Identified Need
	Dedicated Freight Guideway System/Regional Truck Lanes (I-710 From Port of Long Beach to SR-60; East-West Corridor bounded by the I-210 to the north and SR-91 to the south inclusive of the I-10 and SR-60 between the I-710 and I-15; and I-15 from SR-60 to Victorville) inclusive of potential non-freeway implementation	\$8,411 (LA County portion)	Regional
ITS for Vehicle Management & Routing	POLA/POLB Advanced Transportation Management, Information, and Security (ATMIS) System	\$10	County
	San Pedro ATSAC System in LADOT - Provide ATSAC control of all signalized intersections within the project limits to aide motorists	\$6	County

Table 11  
Los Angeles County Goods Movement Projects & Identified Needs

Project Type	Project Description	Cost <sup>1</sup> (Millions)	Category
	Wilmington ATSAC System in LADOT - Provide ATSAC control of all signalized intersections within the project limits to aide motorists	\$7	County
	Use ITS technology to maximize the operating efficiency of freeways and arterial in the vicinity of the ports of Long Beach and Los Angeles.	TBD	Identified Need
Highway Capacity and Operational Improvements	High Desert Corridor <sup>4</sup> (SR-14 to LA County Line)	\$5,600	Regional
	Expansion of I-5 from I-605 to Orange County Line	\$1,150	Identified Need
	Penrose Street and I-5 southbound on and off ramps - widen south side of street and increase curb radii to 45 feet where feasible	TBD	Identified Need
	Penrose Street and I-5 northbound off ramp - widen south side of street and increase curb radii to 45 feet where feasible	TBD	Identified Need
	Roscoe Blvd. And I-405 northbound on ramp - widen Roscoe Blvd and increase curb radii to 45 feet where possible	TBD	Identified Need
	Roscoe Blvd. And I-405 northbound off ramp - widen Roscoe Blvd and increase curb radii to 45 feet where possible	TBD	Identified Need
	Reconstruct I-605/ I-10 Interchange	\$1,000	County
	Reconstruct I-605/ SR- 60 Interchange	\$1,000	County
	Reconstruct I-605 / SR- 91 Interchange	\$240	County
	Reconstruct I-605/ I-105 Interchange	\$500	County
	Reconstruct SR-57 / SR-60 Interchange	\$550	County
	Replace/ Reconstruct Gerald Desmond Bridge	\$800	Regional
	SR-14/Avenue G Interchange	TBD	Identified Need

**Table 11**  
**Los Angeles County Goods Movement Projects & Identified Needs**

Project Type	Project Description	Cost <sup>1</sup> (Millions)	Category
	SR-47 Expressway including Commodore Heim Bridge Replacement	\$662	Regional
	Seaside Ave & Navy Way Interchange - Navy Way Connectors to Westbound Seaside Avenue (SR-47) - Construct connector ramps at Navy Way and Seaside Avenue and eliminate the need for a traffic signal at the intersection to improve poor traffic conditions	\$43	County
	8th St. and I-10 WB freeway on/off ramp - evaluate widening ramps and conversion of 8th to one way (City of LA)	TBD	Identified Need
	I-110 8th / 9th Street Interchange - Add auxiliary lanes and modify / reconstruct ramps	\$39	County
	I-110 Connector Improvement Program includes: South Wilmington Grade Separation (\$53 M), I-110 Freeway/ "C" Street Interchange Improvements (\$22 M), I-110/SR-47 Interchange & John S. Gibson Blvd. Intersection/ NB I-110 Ramp Access Improvements (\$39 M), SR	\$134	County
	I-405: La Tijera Blvd to Jefferson Blvd, Add Auxiliary Lane	\$39	Identified Need
	I-710 Early Action Projects (3) - City of Long Beach – Shoemaker Ave. bridge interchange/PCH interchange/Anaheim St. interchange, City of South Gate-Firestone Blvd interchange, and City of Vernon - Atlantic Blvd/Bandini Blvd ramp reconfiguration	\$500	Regional
Local Arterial Operational Improvements / Identified Needs	Key Goods Movement Arterial Improvements	TBD	County
	Alameda St. and I-10 - widen roadway and add 2nd left turn lane	TBD	Identified Need
	Alameda St. and Washington Blvd - Add a 2nd left turn lane for NB and SB Alameda Blvd. And Widen	TBD	Identified Need
	Alameda St - 15th St. to Olympic Blvd - Widen Alameda St., Olympic Blvd., and 14th St; increase curb radii	TBD	Identified Need
	Alameda Street Widening and reconstruction in Los Angeles (101 Freeway to 7th street; I-10 Freeway to 7th street)	\$29	County

**Table 11**  
**Los Angeles County Goods Movement Projects & Identified Needs**

Project Type	Project Description	Cost <sup>1</sup> (Millions)	Category
	Arroyo Street between Foothill and Montero Ave. - widen westbound approach of Arroyo Street at Foothill Blvd	TBD	Identified Need
	Bellflower Blvd at Imperial Hwy - provide right-turn pockets and provide 50-foot turning radii for trucks at Bellflower/Imperial Hwy intersection		Identified Need
	Bradley Avenue and Penrose Street - increase curb radii to 45 feet where feasible	TBD	Identified Need
	Bradley Avenue between Tuxford Street and Penrose Street - widen roadway where feasible	TBD	Identified Need
	Branford Street and San Fernando Road - Widen both sides of street and increase curb radii to 45 feet where feasible	TBD	Identified Need
	Central Ave. and 16th St - Widen roadway & increase right turn lane from 10 to 18 ft.	TBD	Identified Need
	Crenshaw Blvd @ 182nd/I-405 On/Off Ramp Capacity Enhancements - Road widening to install dedicated right turn lanes - Crenshaw Blvd @ 182nd and I-405 SB ramps & 182nd @ I-405 NB ramps. Also pavement rehabilitation on Crenshaw Blvd from 182nd to 190th.	TBD	Identified Need
	Daly Street and North Main Street -widen intersection and increase curb radii	\$1	Identified Need
	Doran Street and San Fernando Road - widen road crossing and increase curb radii to 45 feet where feasible	TBD	Identified Need
	Crenshaw Blvd @ 182nd/I-405 On/Off Ramp Capacity Enhancements - Road widening to install dedicated right turn lanes - Crenshaw Blvd @ 182nd and I-405 SB ramps & 182nd @ I-405 NB ramps. Also pavement rehabilitation on Crenshaw Blvd from 182nd to 190th.	TBD	Identified Need
	Highland Blvd. At Franklin & Highland Blvd. At Odin St. - realignment of Highland Ave.	TBD	Identified Need
	Hawthorne Blvd Mobility Improvement Project - The project will improve congestion and increase efficiency for vehicular, pedestrian, public transit and bicycle traffic on Hawthorne Blvd	TBD	Identified Need
	Laurel Canyon Blvd Widening south of Mulholland Drive	TBD	Identified Need
	Mateo St. and 7th St. - widen Mateo from 34 ft to 70 ft secondary standard	TBD	Identified Need

**Table 11**  
**Los Angeles County Goods Movement Projects & Identified Needs**

Project Type	Project Description	Cost <sup>1</sup> (Millions)	Category
	Mateo St. and Olympic Blvd. - widen NW leg and increase width of right lane & curb radii	TBD	Identified Need
	Old Road widening north of Magic Mountain Parkway to Turnberry Lane	TBD	Identified Need
	Paramount Blvd. At Firestone - provide right-turn pockets and provide 50-foot turning radii for trucks at Paramount/Bellflower Blvd. intersection		Identified Need
	Penrose Street Widening - San Fernando Road and Lehigh Ave	\$3	Identified Need
	Santa Fe Ave. and 8th St - Fully improve Santa Fe to secondary standards (increase width from 80 to 90 ft.); add NB LT lane	TBD	Identified Need
	San Pedro St. between 16th and 17th - widen street and add side by side NB and SB left turn lanes	TBD	Identified Need
	Soto St. and Whittier Blvd - Widen Soto from 80 to 100 ft. where right of way exists	TBD	Identified Need
	Soto St. and 8th St. - Widen Soto from 80 to 100 ft. where right of way exists	TBD	Identified Need
	Valley Blvd. Rail Corridor (Widen Vineburn Av. & Boca Av. - upgrade signals, railroad devices & operations)	TBD	Identified Need
	Washington Blvd Widening (near Hobart Yard, UP East LA intermodal facilities)	\$14.0	County
<b>Total Los Angeles County Goods Movement Projects</b>		<b>\$29,320.5</b>	

Notes:

1. All figures include environmental mitigation costs.
2. Private sector fund sources.
3. Project must demonstrate regional public benefit to qualify for public funds.
4. Requires further analysis west of US-395, private sector primary fund source, with possible exception of short-term project to construct section between Phantom East and I-15 for \$350 million (San Bernardino County).

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- <sup>2</sup> Metro, 2001 Long Range Transportation Plan for Los Angeles County, p6-1
- <sup>3</sup> Port of Los Angeles webpage < [http://www.portoflosangeles.org/factsfigures\\_Portataglance.htm](http://www.portoflosangeles.org/factsfigures_Portataglance.htm)>
- <sup>4</sup> Port of Long Beach webpage <<http://www.polb.com/about/facts.asp>>
- <sup>5</sup> "San Pedro Bay Ports Rail Study Update Executive Summary", Parsons for the Port of Long Beach and Port of Los Angeles, December 2006
- <sup>6</sup> CEA Consulting, 2006.
- <sup>7</sup> Ibid.
- <sup>8</sup> Alameda Corridor Transportation Authority webpage <<http://www.acta.org/PDF/CorridorTrainCounts.pdf>>
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- <sup>10</sup> Ibid
- <sup>11</sup> "Draft 2007 Air Quality Management Plan", South Coast Air Quality Management District
- <sup>12</sup> "Analysis of Goods Movement Emission Reduction Strategies – Task 1 Draft Report", Southern California Association of Governments, February, 2007.
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- <sup>14</sup> "DRAFT South Bay Goods Movement Study", Southern California Association of Governments; South Bay Cities Council of Governments, June 2007
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- <sup>17</sup> "Analysis of Highway Truck Bottlenecks," Federal Highway Administration January 2006, < <http://www.fhwa.dot.gov/policy/otps/bottlenecks/bottlenecks.pdf> >.
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- <sup>23</sup> "Traffic Conditions and Truck Accidents on Urban Freeways," Golob & Regan, 2004.
- <sup>24</sup> Ibid.
- <sup>25</sup> Ibid.
- <sup>26</sup> "San Pedro Bay Ports Rail Study Update Executive Summary", Parsons for the Port of Long Beach and Port of Los Angeles, December 2006
- <sup>27</sup> Los Angeles World Airports, News Release, Los Angeles City Council Gives Final Approval to Settlement of LAX Master Plan Lawsuits, January 18,2006 <http://www.lawa.org/news/newsDisplay.cfm?newsID=776>)